2005



Service Manual

LIQUID CRYSTAL DISPLAY TELEVISION



LT-4260
(L423FR)

The LT-4260 includes the L423FR, monitor and HD-6000, receiver controller.
This manual covers the L423FR, monitor.
For the receiver/controller, see the HD-6000 Service Manual

CAUTION:
Before servicing this chassis, it is important that the service person read the "SAFETY PRECAUTIONS" and "PRODUCT SAFETY NOTICE" contained in this manual.

SPECIFICATIONS

- **Power** : 120V, 60Hz, 350W (Includes AC Outlet-100W)
  Standby <5W
- **LCD Panel** : Size - 42" diagonal, 16:9
  : Resolution - 1366 x 768
  : Pixel Pitch - 0.227mm x 0.681 mm x RGB
- **Video Inputs** : 1 Composite or S-Video (NTSC)
  1 Component (480i, 480p, 720p, 1080i)
  1 HDMI™ (480p, 720p, 1080i)
- **PC Input** : 1 Mini D-sub 15 pin (VGA, SVGA, XGA, WXGA)
  Horiz: 31.5-80KHz, Vert: 55-75 Hz
- **Audio Inputs** : 1 Pair RCA (L&R) for Composite or S-Video
  1 Pair RCA (L&R) for Component
  1 Pair RCA (L&R) for DVI (Using HDMI Input)
  1 3.5mm Mini-Jack for PC
- **Outputs** : 1 Headphone, 3.5mm Mini-Jack
  1 USB (Memory Card data to HD-6000 only)
  1 RS-232C (Control data for HD-6000 only)
- **Speakers** : Left & Right (2 X 5W) Woofer (10W)
- **Cabinet Dimensions / Weight**

	Height	Width	Depth	Weight
With Stand:	31.5"	44.1"	14.2"	108.0 lbs
W/O Stand or Speakers:	29.8"	44.1"	4.9"	77.6 lbs

- Weight and dimensions shown are approximate.
- Design specifications are subject to change without notice.
- HDMI™ is a trademark of HDMI Licensing, LLC

MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC.
9351 Jeronimo Road, Irvine, CA 92618-1904

CONTENTS

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in television receivers have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have special safety characteristics are identified in this service manual.

The replacement for any safety part should be identical in value and characteristics.

SAFETY PRECAUTIONS

NOTICE: Observe all cautions and safety related notes located inside the receiver cabinet and on the receiver chassis.

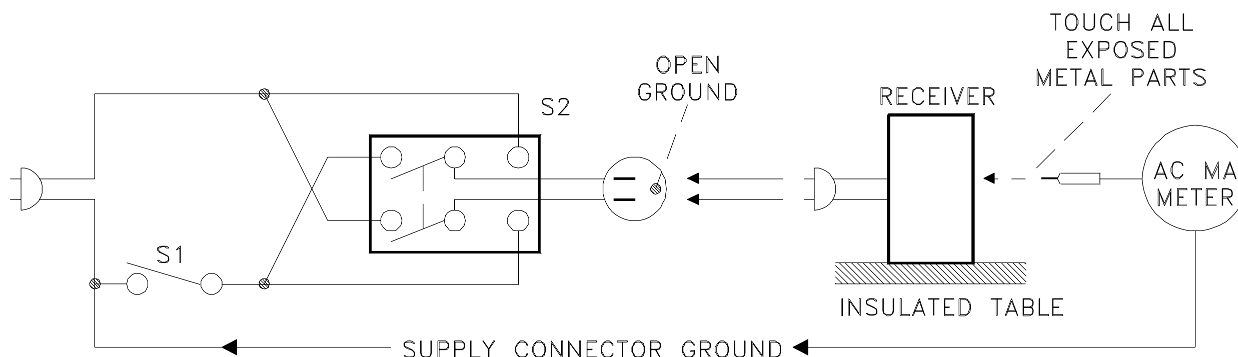
WARNING:

1. Operation of this receiver outside the cabinet or with the cover removed presents a shock hazard from the receiver's power supplies. Work on the receiver should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment.
2. Do not install, remove or handle the LCD panel in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while the panel is being handled. Keep the panel away from the body while handling.
3. When service is required, observe the original lead dress. Where a short-circuit has occurred, replace those components that indicate evidence of overheating.

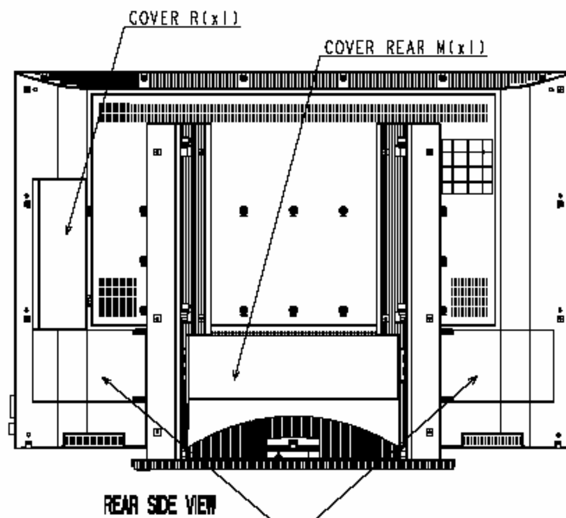
Leakage current check
Before returning the receiver to the customer, leakage current should be measured using following methods.

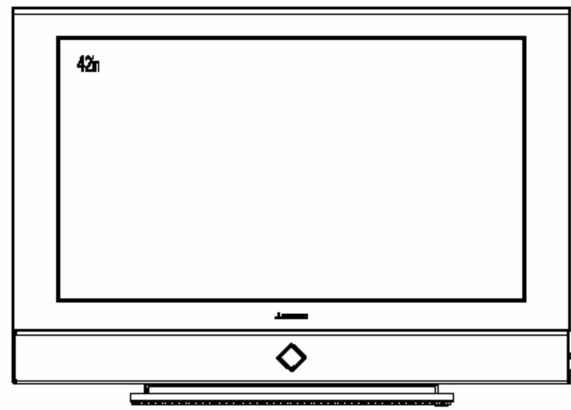
1. *Cold Check*
   With the alternating current (AC) plug removed from the AC source, place a jumper across the two AC plug prongs. Connect one lead of an ohm meter to the AC plug and touch the other lead to each exposed metal part (i.e. antennas, handle bracket, metal cabinet, screw heads, metal overlay, control shafts, etc.), particularly any exposed metal part that has a return path to the chassis. The resistance of the exposed metal parts having a return path to the chassis **should be a minimum of 1Meg Ohm**. Any resistance below this value indicates an abnormal condition and requires corrective action.

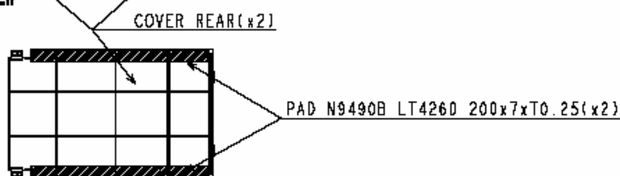
2. *Hot Check ...Use the circuit shown below to perform the hot check test.*
   1. Keep switch S1 open and connect the receiver to the measuring circuit. Immediately after connection, and with the switching devices of the receiver in their operating positions, measure the leakage current for both positions of switch S2.
   2. Close switch S1, energizing the receiver. Immediately after closing switch S1, and with the switching devices of the receiver in their operating positions, measure the leakage current for both positions of switch S2. Repeat the current measurements of items 1 and 2 after the receiver has reached thermal stabilization. **The leakage current must not exceed 0.5 milliampere (mA).**



Cabinet Disassembly





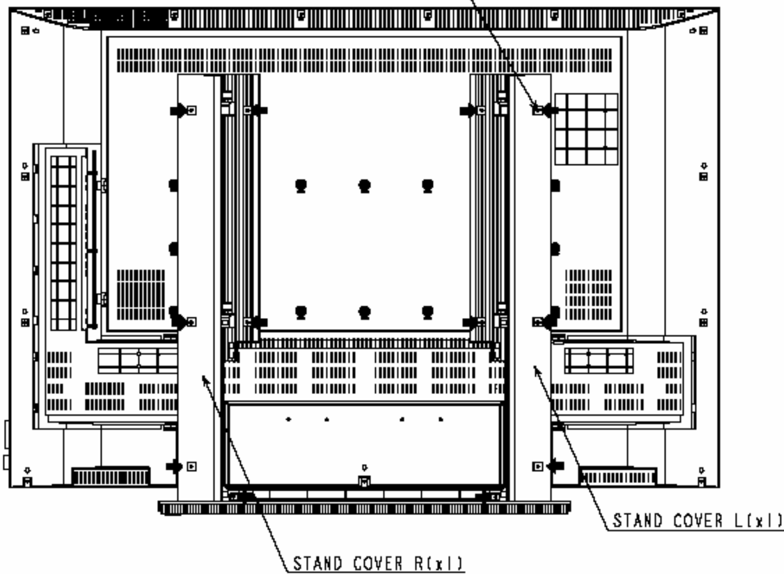


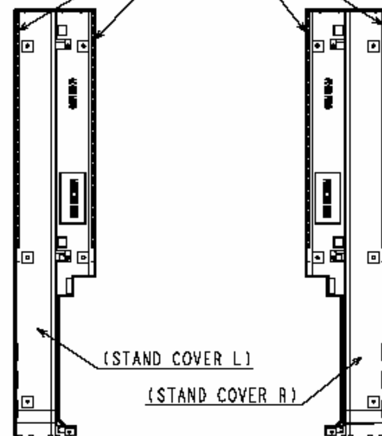
1.STAND COVER R/L



SCREW BTV4X8 NI (x12)

PAD N9795B LT4260 370x7xT0.9(x4)

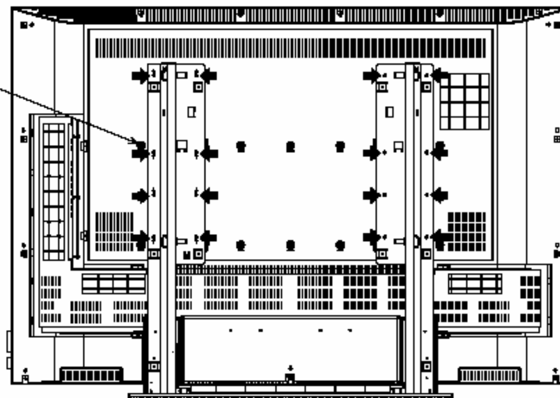


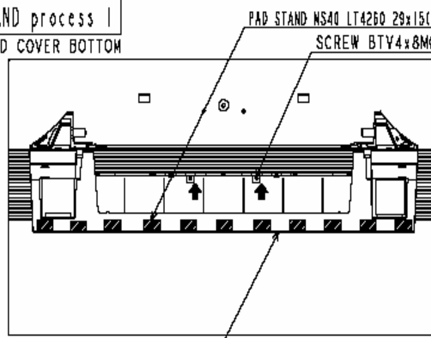


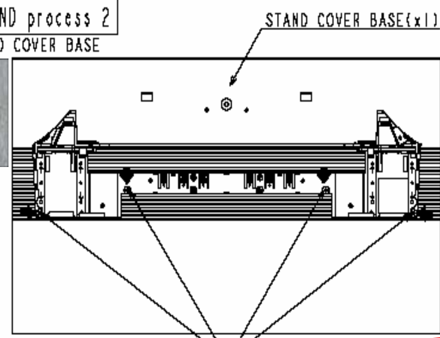
2.STAND

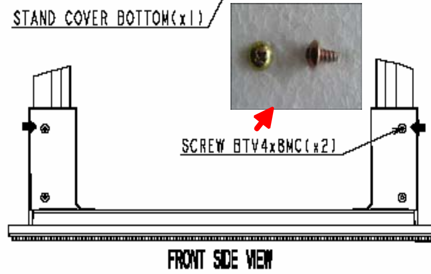
SCREW PM4X16/双片10&MC (x16)

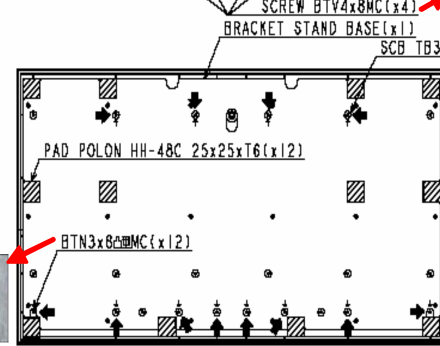


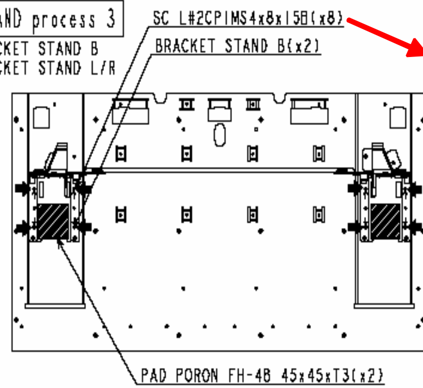


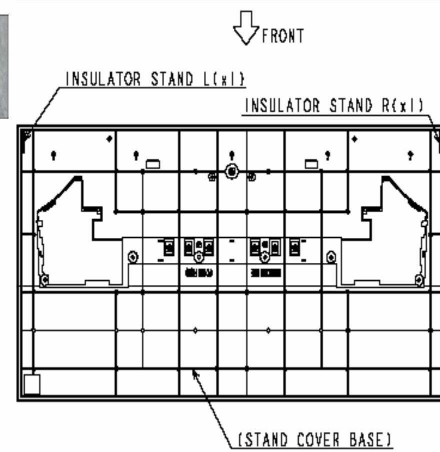

STAND process 1
STAND COVER BOTTOM
PAD STAND NS40 LT4260 29x15(x1D)
SCREW BTV4x8MC(x2)
STAND COVER BOTTOM(x1)

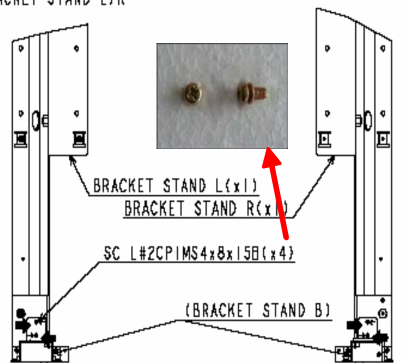

STAND process 2
STAND COVER BASE
STAND COVER BASE(x1)
SCREW BTV4x8MC(x4)
BRACKET STAND BASE(x1)


SCREW BTV4x8MC(x2)
FRONT SIDE VIEW

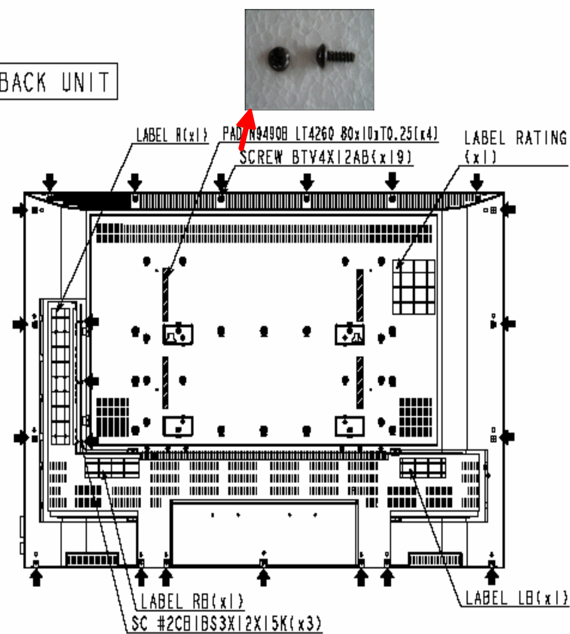

SCB TB3x8AB(x12)
PAD POLON HH-48C 25x25xT6(x12)
BTN3x8MC(x12)
FRONT


STAND process 3
BRACKET STAND B
BRACKET STAND L/R
SC L#2CPIMS4x8x15B(x8)
BRACKET STAND B(x2)
PAD PORON FH-48 45x45xT3(x2)

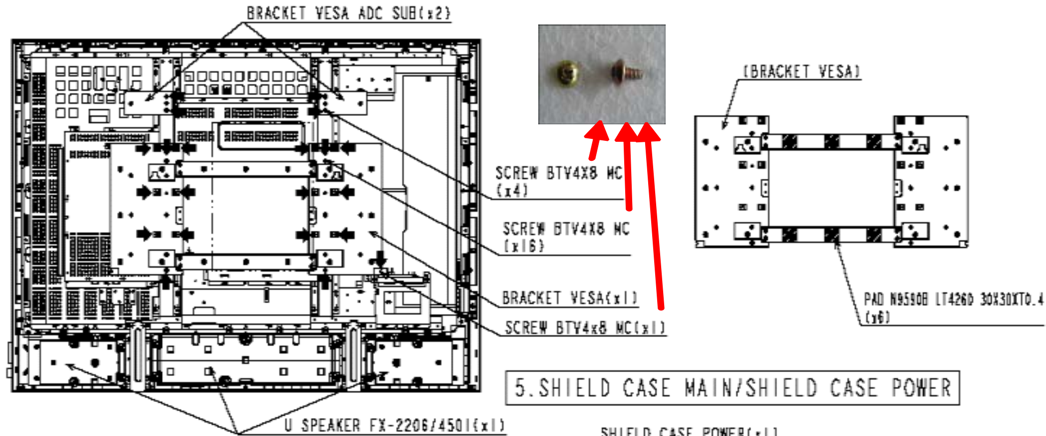

INSULATOR STAND L(x1)
INSULATOR STAND R(x1)
(STAND COVER BASE)


STAND process 4
BRACKET STAND L/R
BRACKET STAND L(x1)
BRACKET STAND R(x1)
SC L#2CPIMS4x8x15B(x4)
(BRACKET STAND B)
FRONT SIDE VIEW

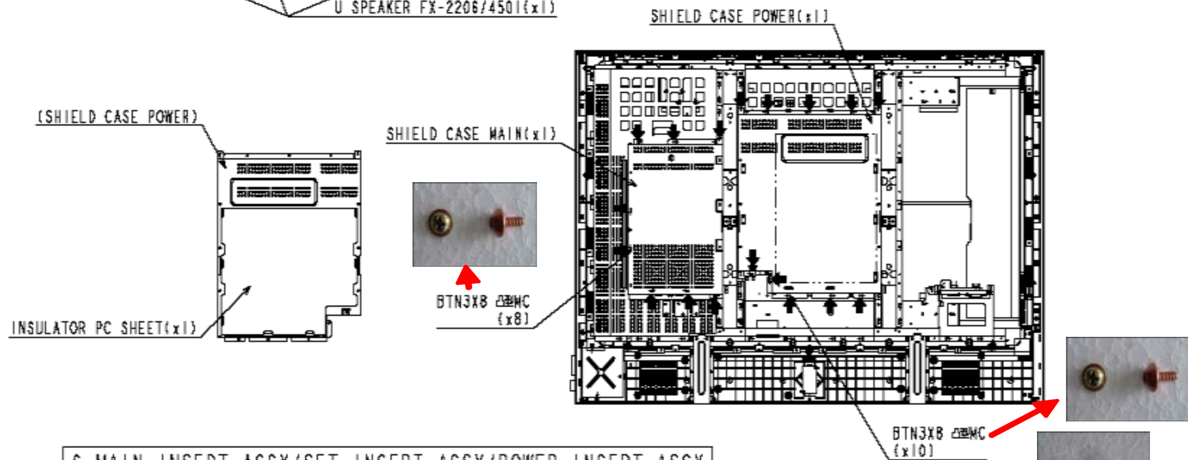

SCREW PW4x16/W10&MC(x4)
REAR SIDE VIEW


3.BACK UNIT
LABEL R(x1)
PAD N9490B LT4260 80x10xT0.25(x4)
SCREW BTV4X12AB(x19)
LABEL RATING (x1)
LABEL RB(x1)
SC #2CBIBS3X12X15K(x3)
LABEL LB(x1)

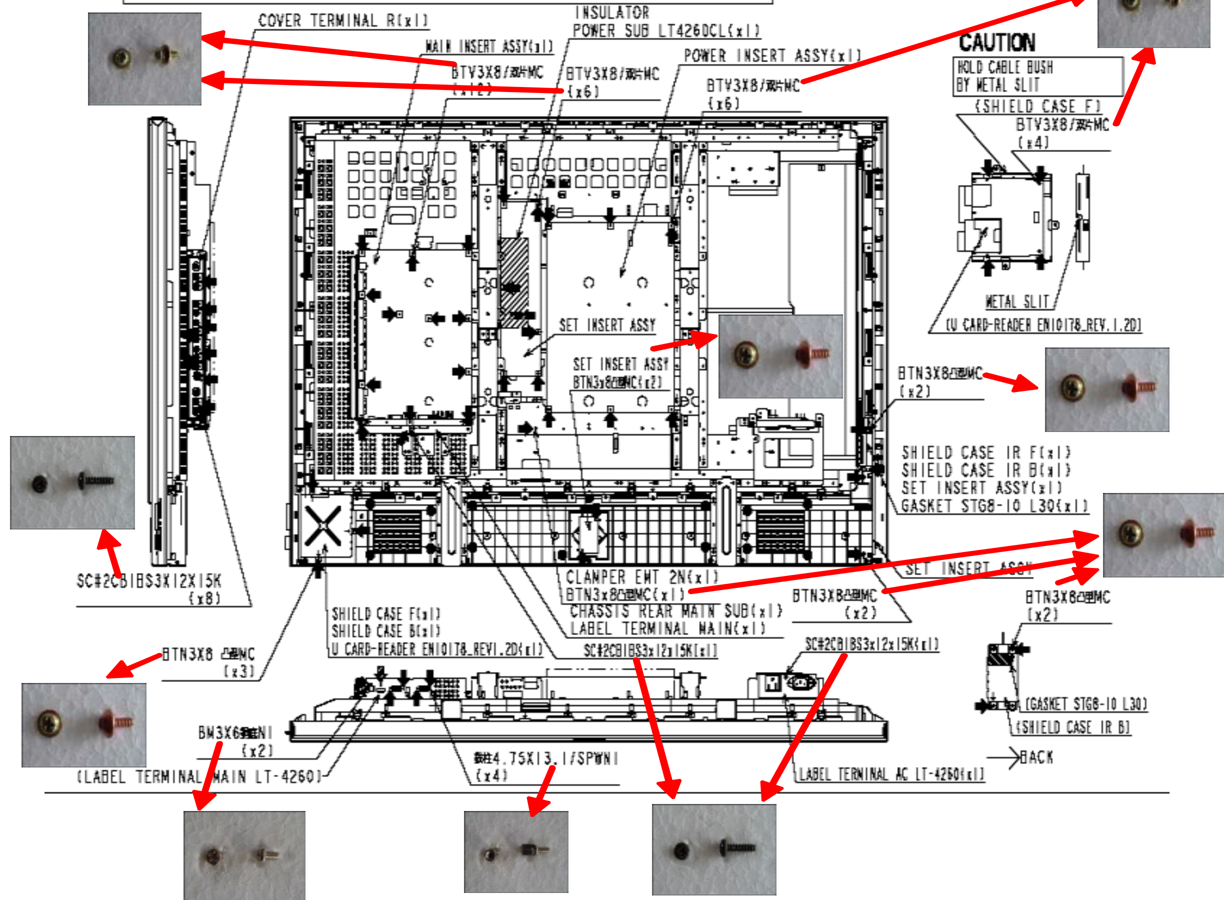
4.BRACKET VESA/BRACKET VESA ADC SUB/SP

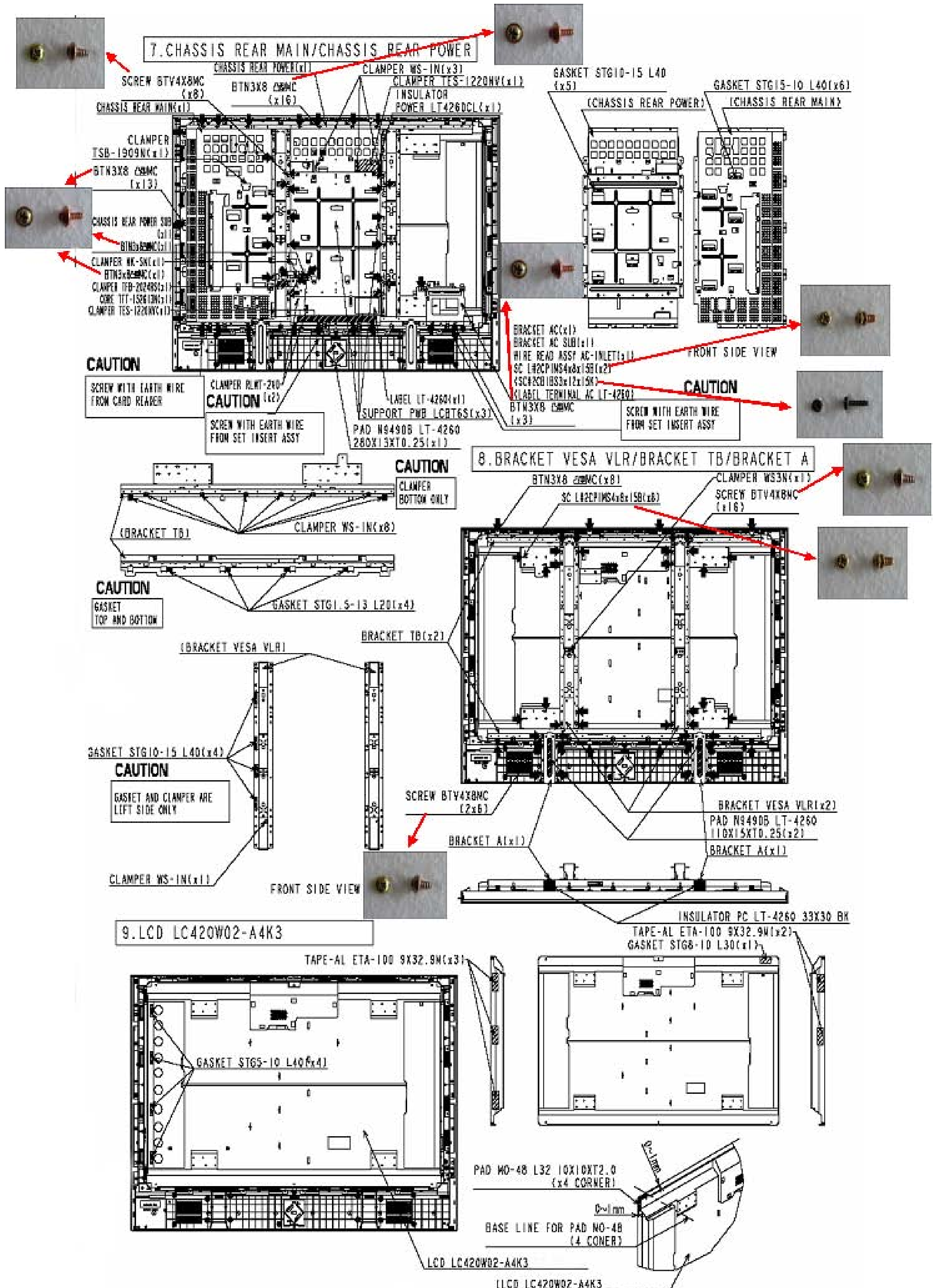


5.SHIELD CASE MAIN/SHIELD CASE POWER

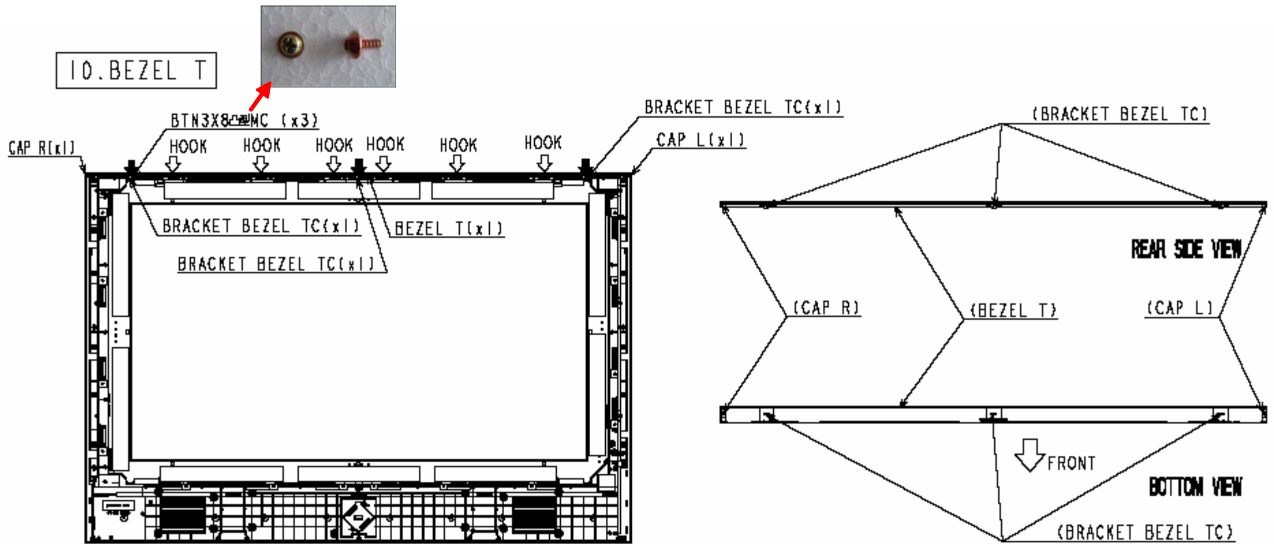


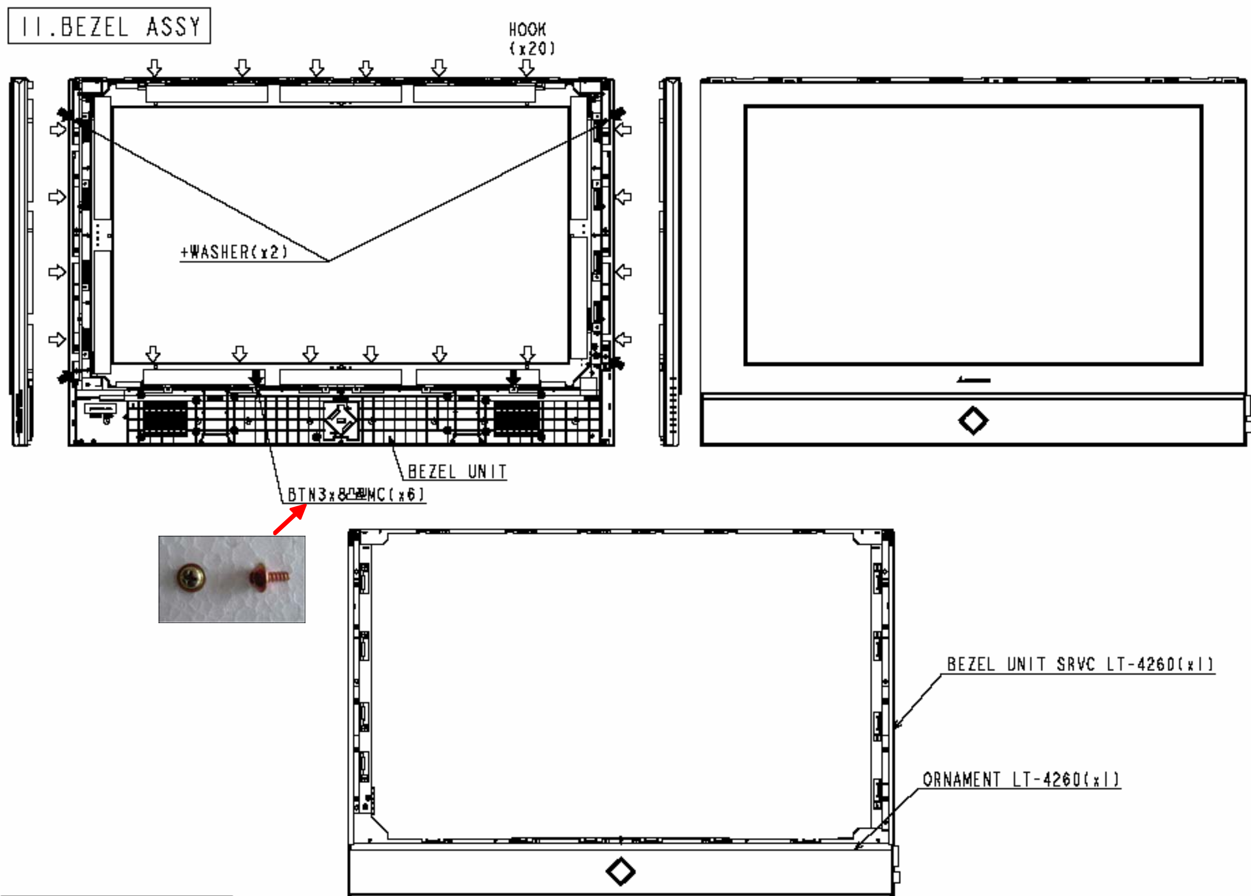
6.MAIN INSERT ASSY/SET INSERT ASSY/POWER INSERT ASSY

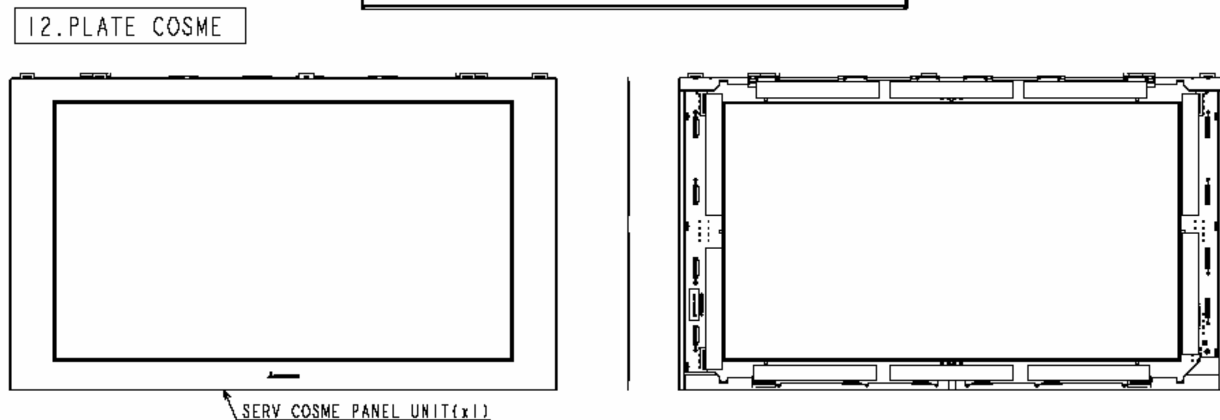


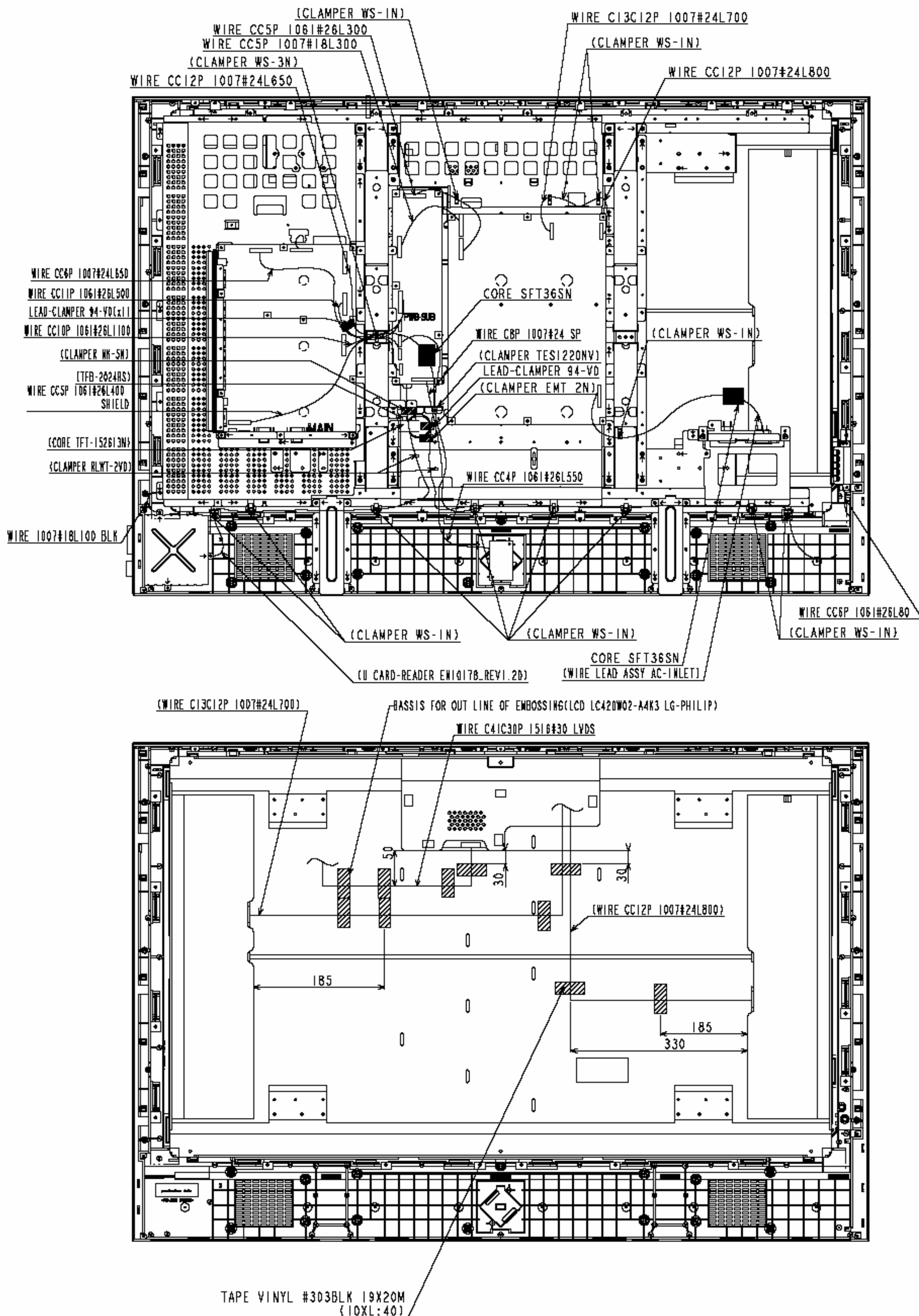


7.CHASSIS REAR MAIN/CHASSIS REAR POWER
SCREW BTV4X8MC (x8)
BTN3X8 (x16)
CLAMPER WS-IN(x3)
INSULATOR POWER LT4260CL(x1)
GASKET STG10-15 L40 (x5)
GASKET STG15-10 L40(x6)
(CHASSIS REAR POWER)
(CHASSIS REAR MAIN)
CLAMPER TSB-1909N(x1)
BTN3X8 (x13)
FRONT SIDE VIEW
CAUTION
SCREW WITH EARTH WIRE FROM CARD READER
SCREW WITH EARTH WIRE FROM SET INSERT ASSY
LABEL LT-4260(x1)
SUPPORT PWB LCBT6S(x3)
PAD N9490B LT-4260 280X13XT0.25(x1)
BTN3X8 (x3)
8.BRACKET VESA VLR/BRACKET TB/BRACKET A
BTN3X8 (x8)
CLAMPER WS3N(x1)
SCREW BTV4X8MC (x16)
CLAMPER BOTTOM ONLY
CLAMPER WS-IN(x8)
(BRACKET TB)
GASKET TOP AND BOTTOM
GASKET STG1.5-13 L20(x4)
BRACKET TB(x2)
(BRACKET VESA VLR)
GASKET STG10-15 L40(x4)
GASKET AND CLAMPER ARE LIFT SIDE ONLY
SCREW BTV4X8MC (2x6)
BRACKET A(x1)
BRACKET VESA VLR(x2)
PAD N9490B LT-4260 110X15XT0.25(x2)
CLAMPER WS-IN(x1)
INSULATOR PC LT-4260 33X30 BK
9.LCD LC420W02-A4K3
TAPE-AL ETA-100 9X32.9M(x3)
TAPE-AL ETA-100 9X32.9M(x2)
GASKET STG8-10 L30(x1)
GASKET STG5-10 L40(x4)
PAD NO-48 L32 10X10XT2.0 (x4 CORNER)
0~1mm
BASE LINE FOR PAD NO-48 (4 CONER)
LCD LC420W02-A4K3
(LCD LC420W02-A4K3


10.BEZEL T
BTN3X8 MC (x3)
CAP R(x1)
HOOK
BRACKET BEZEL TC(x1)
CAP L(x1)
BEZEL T(x1)
(BRACKET BEZEL TC)
REAR SIDE VIEW
(CAP R)
(BEZEL T)
(CAP L)
FRONT
BOTTOM VIEW


11.BEZEL ASSY
HOOK
(x20)
+WASHER(x2)
BEZEL UNIT
BTN3x8 MC(x6)
BEZEL UNIT SRVC LT-4260(x1)
ORNAMENT LT-4260(x1)


12.PLATE COSME
SERV COSME PANEL UNIT(x1)


(CLAMPER WS-IN)
WIRE CC5P 1061#26L300
WIRE CC5P 1007#18L300
(CLAMPER WS-3N)
WIRE CC12P 1007#24L650
WIRE C13C12P 1007#24L700
(CLAMPER WS-IN)
WIRE CC12P 1007#24L800
WIRE CC6P 1007#24L650
WIRE CC11P 1061#26L500
LEAD-CLAMPER 94-VD(x1)
WIRE CC10P 1061#26L1100
(CLAMPER NK-5N)
(TFB-2024RS)
WIRE CC5P 1061#26L400
SHIELD
(CORE TFT-152613N)
(CLAMPER RLWT-2VD)
WIRE 1007#18L100 BLK
CORE SFT36SN
WIRE CBP 1007#24 SP
(CLAMPER TES1220NV)
LEAD-CLAMPER 94-VD
(CLAMPER EMT 2N)
(CLAMPER WS-IN)
WIRE CC4P 1061#26L550
MAIN
WIRE CC6P 1061#26L80
(CLAMPER WS-IN)
(CLAMPER WS-IN)
(CLAMPER WS-IN)
CORE SFT36SN
(WIRE LEAD ASSY AC-INLET)
(U CARD-READER EN10178_REV1.2D)
(WIRE C13C12P 1007#24L700)
CHASSIS FOR OUT LINE OF EMBOSSING(LCD LC420W02-A4K3 LG-PHILIP)
WIRE C41C30P 1516#30 LVDS
50
30
30
(WIRE CC12P 1007#24L800)
185
185
330
TAPE VINYL #303BLK 19X20M
(10XL:40)

LCD Panel Replacement Procedure

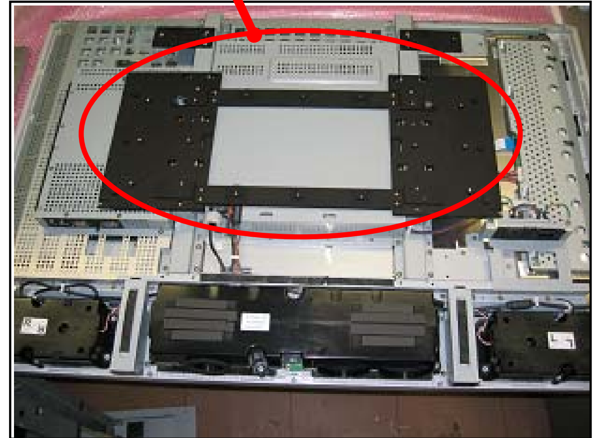
1

Remove back_cover



2

Remove Bracket_Vesa

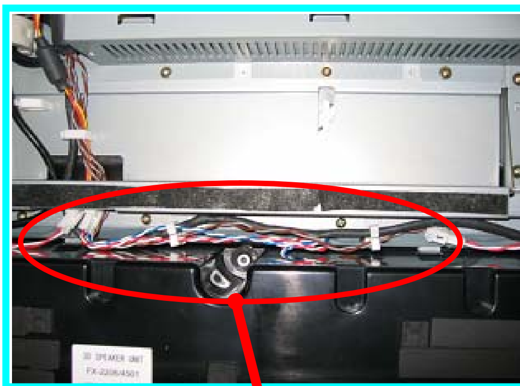


3

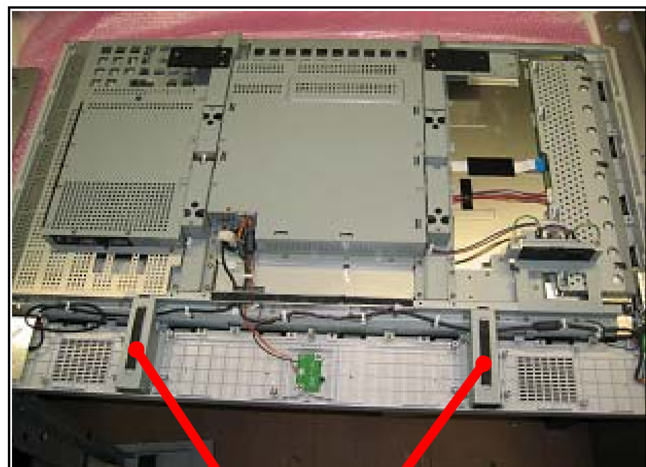


4

Remove MAIN-SP(L/R), & SUB-WOOFER



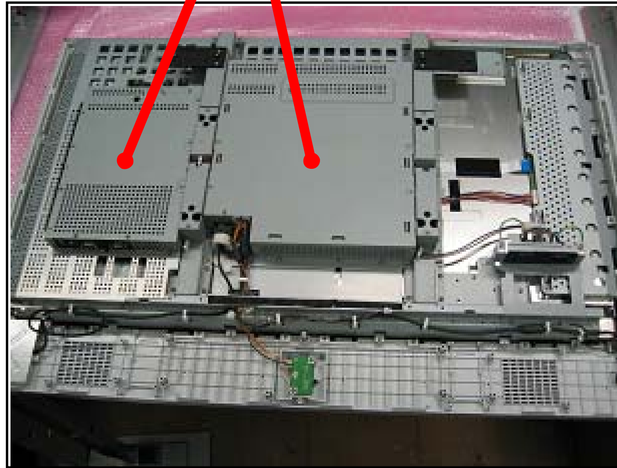
Remove Sp-connector



Remove BRACKET A

5

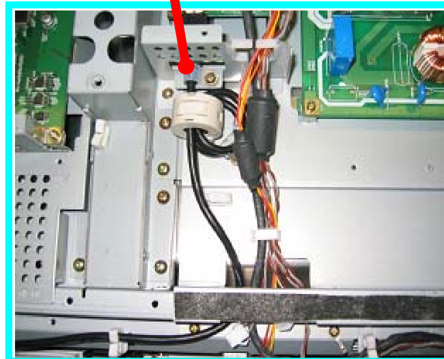
Remove SHIELD CASE POWER,MAIN



6

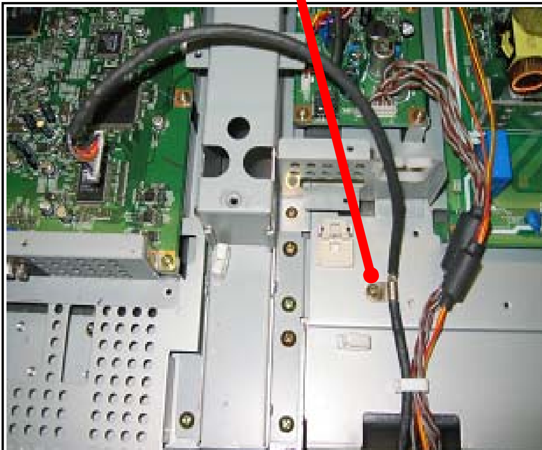
Remove connector of card_reader





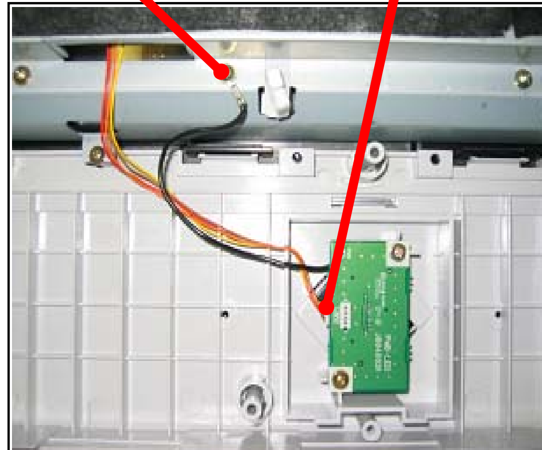
7

Remove screw



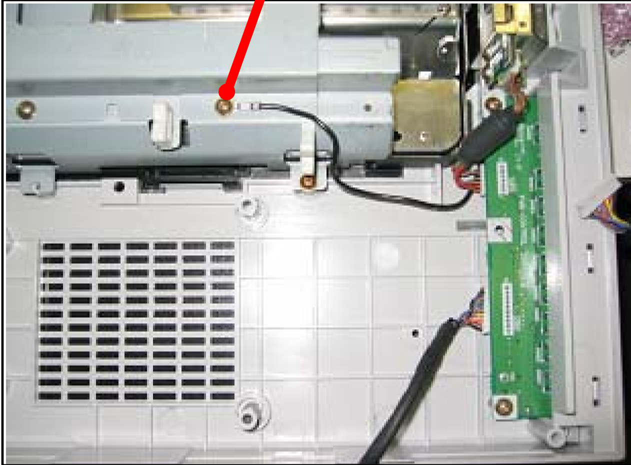
Remove screw

Remove PWB-LED coonector

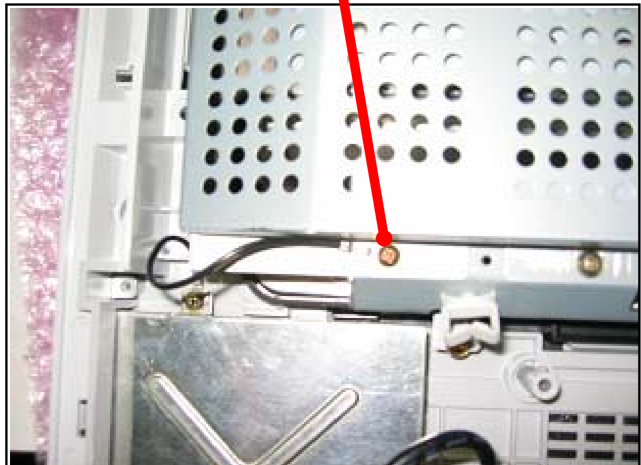


8

Remove screw of earth-lead

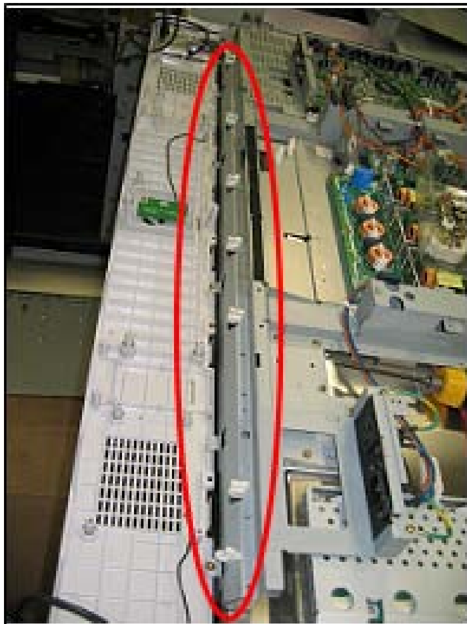


Remove screw of earth-lead of card reader

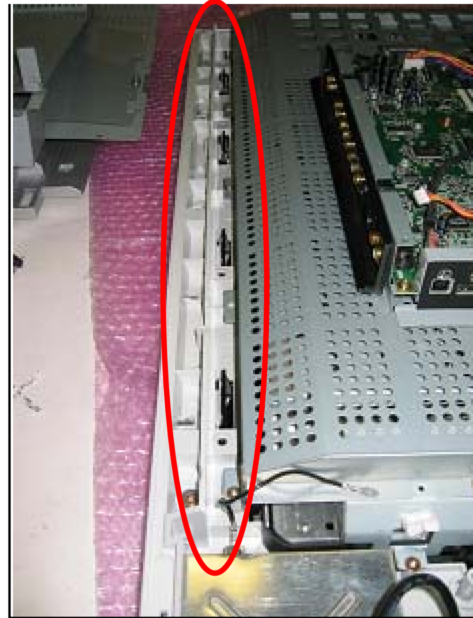


9

Remove BRACKET TB(BOTTOM)
4 screws



10 Remove CHASSIS REAR MAIN
3 screws

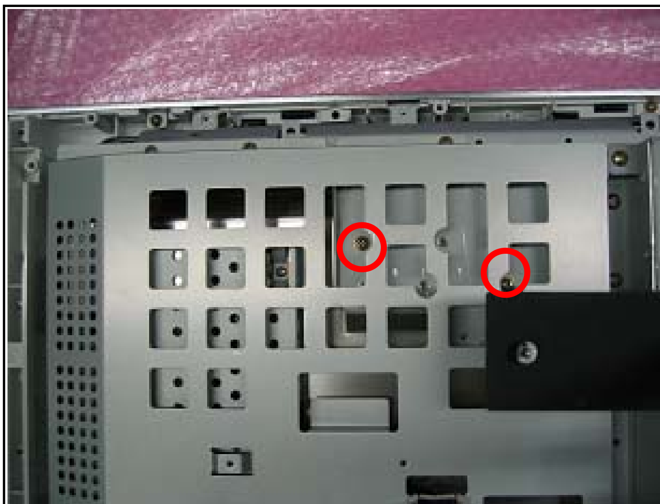


11 Remove BRACKET TB(TOP)
4 screws



12 Remove screws of BRACKET_TB_PANEL

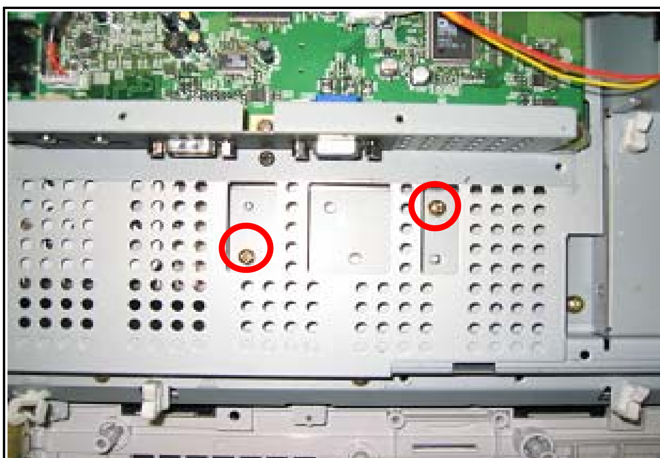
Top-left



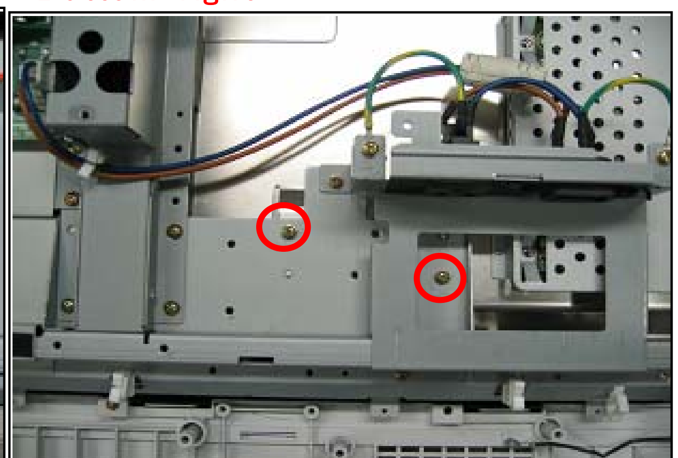
Top-right



Bottom-left



Bottom-right

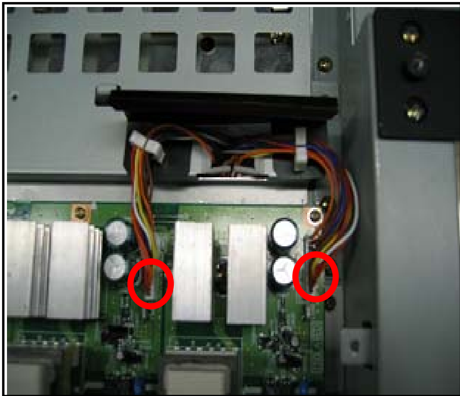


13

Remove connector of PWB-MAIN
LVDS & earth-lead



Remove connector of PWB-power



14

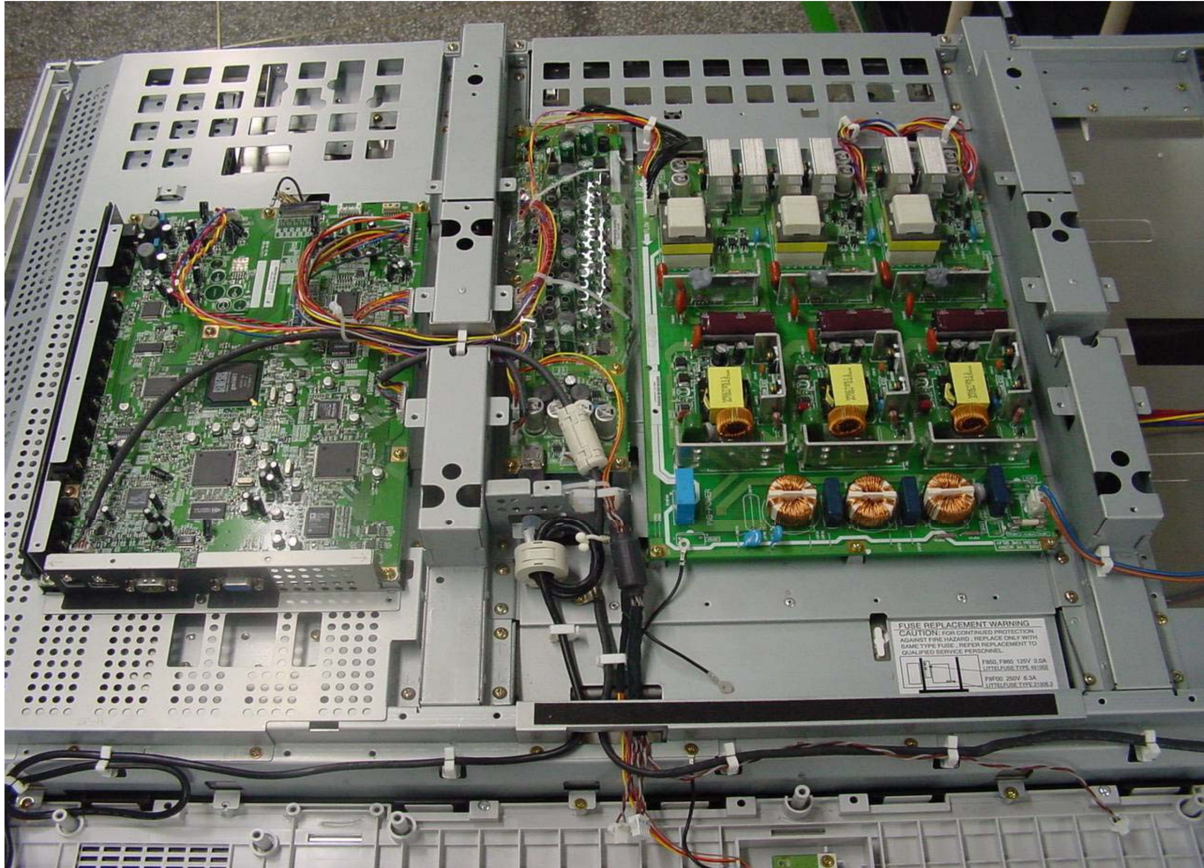
Remove LCD panel



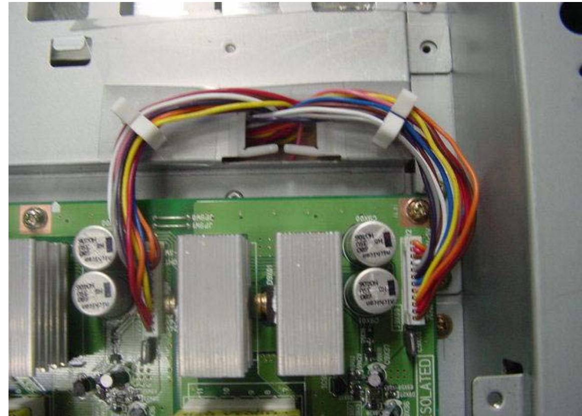


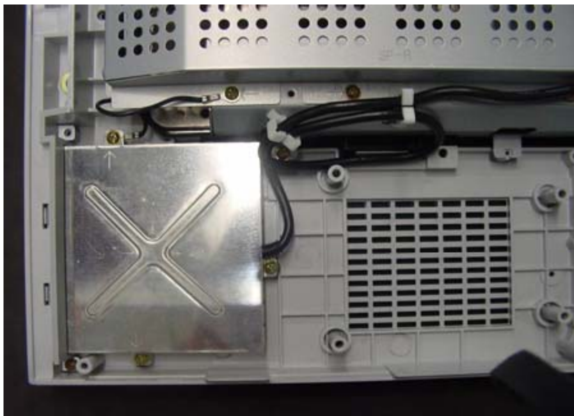


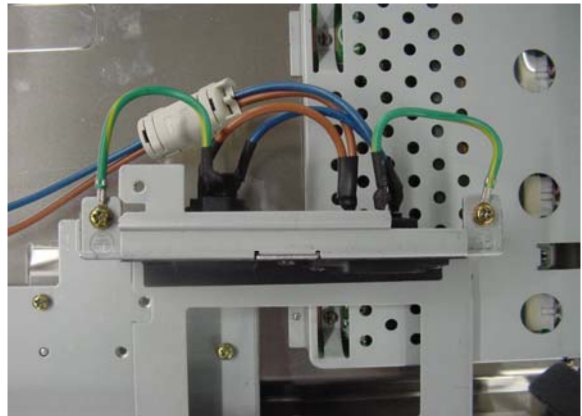
Wire Dressing











Initial Setup

A. Option Menu Setup

Follow the steps below for the initial set-up:

1. Select the "MENU" display by pressing the "MENU" button once.
2. Press the number buttons "2", "0", "7", "0" in sequence to select the "OPTION MENU" display.
3. Press the "ADJUST▲▼" buttons to select "INITIALIZE."
4. Press "ENTER."

MENU-2-0-7-0

OPTION MENU
Initialize
Power Restore :OFF
Component Port:
Direct Key Mode:

NOTE: At this time all Menu and Audio/Video user setting are set to the defaults shown in the chart below.

B. Default Settings

Items			Default Settings
Volume			10
INPUT			Component
FORMAT(PC)			Full
FORMAT(VIDEO)			Stretch
Setup	INPUT ASSIGNMENT	Component	Component
		Input	Input
		PC	PC
		HDMI	HDMI
	Language		English
	Front Button Lock		Off
Audio/Video	Audio Setting	Bass	31
		Treble	31
		Balance	31
		Surround	Off
		Level Sound	Off
		Sub-Woofer	31
	Video Setting	Contrast	31
		Brightness	31
		Sharpness	31
		Color	31
		Tint	31
		Color Temp	High
		Video Noise	Standard
		Film Mode(Auto)	On
		Back Light	63
	Black Enhancement		On
	TV Speakers		On
ADVANCED FEATURES	Perfect Color	Magenta	31
		Red	31
		Yellow	31
		Green	31
		Cyan	31
		Blue	31
	PC Power Save		On
	Video Mute		On

Circuit explanation

1. Video circuits

It explains the video circuits of L423FR (Monitor for LT-4260).
It corresponds to various inputs (Component, VIDEO, PC, HDMI).
It explains the composition and its function of an video circuit.
(Refer to an attached "Video block diagram of LT-4260", regarding as the flow of video signal.)• @

1-1. Video input circuit of PC
In PC input, it is inputted into IC400 of the signal processing IC via Following IC

(A) IC203 ： Analog-to-digital conversion IC (AD9888KS-170 : Analog devices)
The video signal (R, G, B) of PC input is changed into a digital signal (8 bits each) from an analog signal. Moreover, by this IC, it has the function below besides digital conversion.
- Contrast adjustment for PC
- brightness adjustment for PC

This IC is controlled by register control of IC203 via ***3.3V IIC-bus*** to MPU(IC300)

(B) IC201 ： Invert IC with the Schmidt trigger (74LCX14 : Fairchild)
It is IC which inputs the horizontal sync signal and vertical sync signal of PC input.
Since there are what has a bad rising and falling characteristic and what has low amplitude in the sync signal outputted from PC, it is necessary to modify the waveform.
It corresponds to the above-mentioned waveform as follows by this IC.
- a bad rising and falling characteristic. : Rise-time and fall-time is carried out early.
- a waveform is noisy : It prevents that the mistaken pulse occurs by the Schmidt circuit.
- Low Amplitude : If voltage threshold is satisfied, high level will output in 3.3V.

Since 74LCX14 is a invert circuit, if its gate pass twice and it has united polarity.

(C) IC200 ： 1K-bit EEPROM (24LC21TSN : Microchip)
This is the IC for EDID of PC.
This IC has important information about PC input such as product code, serial number, video specification, proposed timing, color information etc.

(D)IC202 ： AND-circuit IC (SN74LVC08APW : Texas Instruments)
This IC is to disable the H, V sync signal line connected to IC which power supply is dropped while stand-by. It can operate correctly by using this.
This is controlled by ENABLE singnal from MPU(IC300) (L : disable)

(E)IC204 ： D Flop-Flop IC(74LCX74 : Fairchild)
The role of this IC is to synchronize H sync signal and V sync signal.
For output signal of IC203, H sync is synchronized by dot-clock from IC203, but V sync is not Synchronized by H sync. This IC uses to be operated without miss-operation.

(F)IC2A0 ： Color conversion IC(M66471FP : Mitsubishi)
This IC uses to perform Color conversion function such as PerfectColor, Colorview.

(G)IC2A1 ： TMDS-Transmitter IC(SII160CTG100 : SiliconImage)
This IC uses to convert signal's specification from TTL to TMDS (differential signal).
Since the input port of latter IC (IC400: Signal processor) could use only the TMDS input, this input specification was united by this IC.

1-2. Video input circuit of COMPONENT
In COMPONENT input, it is inputted into IC400 of the signal processing IC via Following IC.

(H)IC5A0 ： Analog-switch IC with LPF (SM5301A : NPC)
In this IC, it uses only LowPassFilter function for component signal, although it has analog-switch function.

1-3. Video input circuit of HDMI

In HDMI input, it is inputted into IC400 of the signal processing IC via Following IC.

(I)IC500 : HDMI-Receiver IC ((SII9993CTG100 : SiliconImage)

It adopts a input of the interface standard called HDMI in this model. This can send both digital image (video) and digital audio by the differential signal from one input, and this is already beginning to be used for the output of DVD-PLAYER. It is convenient and high-quality methods because all of signal process is digital. This pattern design and specification is severe in order to deal with the signal of hundreds MHz, and it has to pass compliance testing of HDMI to receive confirmation of this HDMI. This IC uses to receive and correspond the differential signal. This IC corresponds not only HDMI input but also DVI input(TMDS interface) . Supported timing of this input is 480P/1080i/720P.

The output format of this IC is YCbCr4:4:4, not RGB.

(J) IC501 : 2K-bit EEPROM (24LC22AT : Microchip)

This is the IC for E-EDID of HDMI.

This IC has important information about HDMI input such as audio, speaker, code for HDMI Identification, in addition to product code, serial number, video specification, proposed timing, color information.

1-4. Video input circuit of INPUT(Composite)

In INPUT input, it is inputted into IC400 of the signal processing IC via Following IC.

(K)IC5T1 : Buffer IC with LPF (MM1566AF : Mitsumi)

This IC uses to mitigate the high frequency noise ingredient of the video signal outputted from Composite-VIDEO(J601) and S-VIDEO(J605)

(L)IC5G0 : Digital decoder IC with 3D Y/C separation (uPC64011 : NEC)

It is IC which changes the analog video signal (S-VIDEO/Composite Video) from IC5T1 into a digital signal.

By this IC, it has the function below besides digital conversion.

- 3 dimension Y/C separation for Composite Video
- Contrast adjustment.
- Brightness adjustment.
- FIELD signal generation.
- PLL (Phase-Locked Loop) : referential clock generation.
- Sync signal generation

This IC is controlled by register control of IC 5G0 via ***3.3V IIC-bus***.

1-5. Signal processor circuit

(M)IC400 : Signal processor IC (gm1601 : Genesis)

By this IC, it has the function below.

- Scaling for all inputs.
- PIP/POP/PAP control for all inputs
- Auto setup for PC
- Frequency measurement / distinction for all inputs
- Color space conversion (YPbPr → RGB)
- Motion Adaptive De-Interlacer.(480i/1080i)
- Color / tint control the input signal except PC input.
- 3 dimension Noise reduction.
- Adaptive Film Mode (24Hz → 30Hz)
- Gamma correction
- Contrast and brightness adjustment for COMPONENT
- OSD mixing

This IC is controlled by register control of IC 400 via 5-lines serial communication.

The output format of this IC is LVDS data stream (differential signals).
In 28 bits, 24-bits digital video signal and horizontal sync signal, vertical sync signal, and an enable signal and a clock signal for LCD panel are pointed out.
A phase-locked transmit clock is transmitted in parallel with the data streams over a fifth LVDS link.
And this output is sent to LCD panel through J402.

(N)IC405 ： 4M bit Flash Memory(PM39LV040-70JCE : PMC)
This IC is installed the firmware of IC400(gm1601), helps that IC400(gm1601) serves as another MPU. (This model operates by 2 MPU)

(O)IC403 ： 128M-bit DDR SDRAM(HY5DU283222AQ-5 : HYNIX)
This IC is used as external frame buffer of IC400(gm1601), provides the storage required for the frame rate conversion process and integrated OSD.

2. Audio circuits

It explains the audio circuits and speaker system of L423FR.
Our design spec is as follows.

- High Power outputs : Total 20W(5W*2(L,R) + 10W(woofer))
- 2.1ch Sub woofer speaker system
- Impedance : 6+/-0.9 ohms
- Compact and high performance sound enclosure box (3 pieces).
- Care for minimizing the vibration noise

(Refer to an attached "Audio block diagram of LT-4260", regarding as the flow of video signal.)

2-1. Audio select circuits

(P)IC601 ： Analog-switch IC (CXA2089 : SONY)
In this IC, the audio from COMPONENT(J602), PC(J604), INPUT(J601), DVI(J603), HDMI(outputs for IC602) is selected by register control of IC601 via ***5V IIC-bus***.

2-2. Audio process circuits

(Q)IC610 ： Audio processor IC (MSP3440G : Micronus)
This models are used the MSP3440G as the audio processor.
This IC's functions are as follows.

- Volume control
- Tone control
- Surround
- L/R mixing
- Sub-woofer output
- Audio line output

This model has some sound effect features on user menu, Bass, Treble, Balance, Surround, Level Sound, Sub Woofer.
Audio adjustment of those in this model is performed by this IC.

2-3 Audio amplifiers circuits

(R)IC670, IC680, IC6A0, IC6C0 ： Single Ended Audio Amplifier IC (MP7720DS：MPS)
This model apply digital Audio Amplifier in order to decrease power consumption.
2 piece is for main sounds, and 2 more piece is for sub-woofer, total 4pcs.
This amplifier voltage is 14V (both AMPVCC(for main) and SAMPVCC(for Sub Woofer)).

2-4. Headphone (J610)
Although the audio signals outputted from amplifier is sent to SPEAKER, between amplifier and SPEAKER is a headphone terminal. If a headphone is connected, the audio signal to SPEAKER will be intercepted and a audio signal will be sent to a headphone terminal.

2-5. Speakers
This model has 2.1ch sub woofer speaker system.

The specification of L/R speaker is following table.

No.	ITEM	SPECIFICATION
1	Nominal Impedance	6 ohms +/- 15%
2	Lowest Resonance	160 +/- 32Hz
3	Effective / Rated Frequency Range	F0~20KHz OUT PUT SPL-10dB
4	Rated Input	8W
5	Maximum Input	10W

The specification of woofer speaker is following table.

No.	ITEM	SPECIFICATION
1	Nominal Impedance	6 ohms +/- 15%
2	Lowest Resonance	70 +/- 14Hz
3	Effective / Rated Frequency Range	F0~18KHz OUT PUT SPL-10dB
4	Rated Input	12W
5	Maximum Input	15W

3. Power circuit

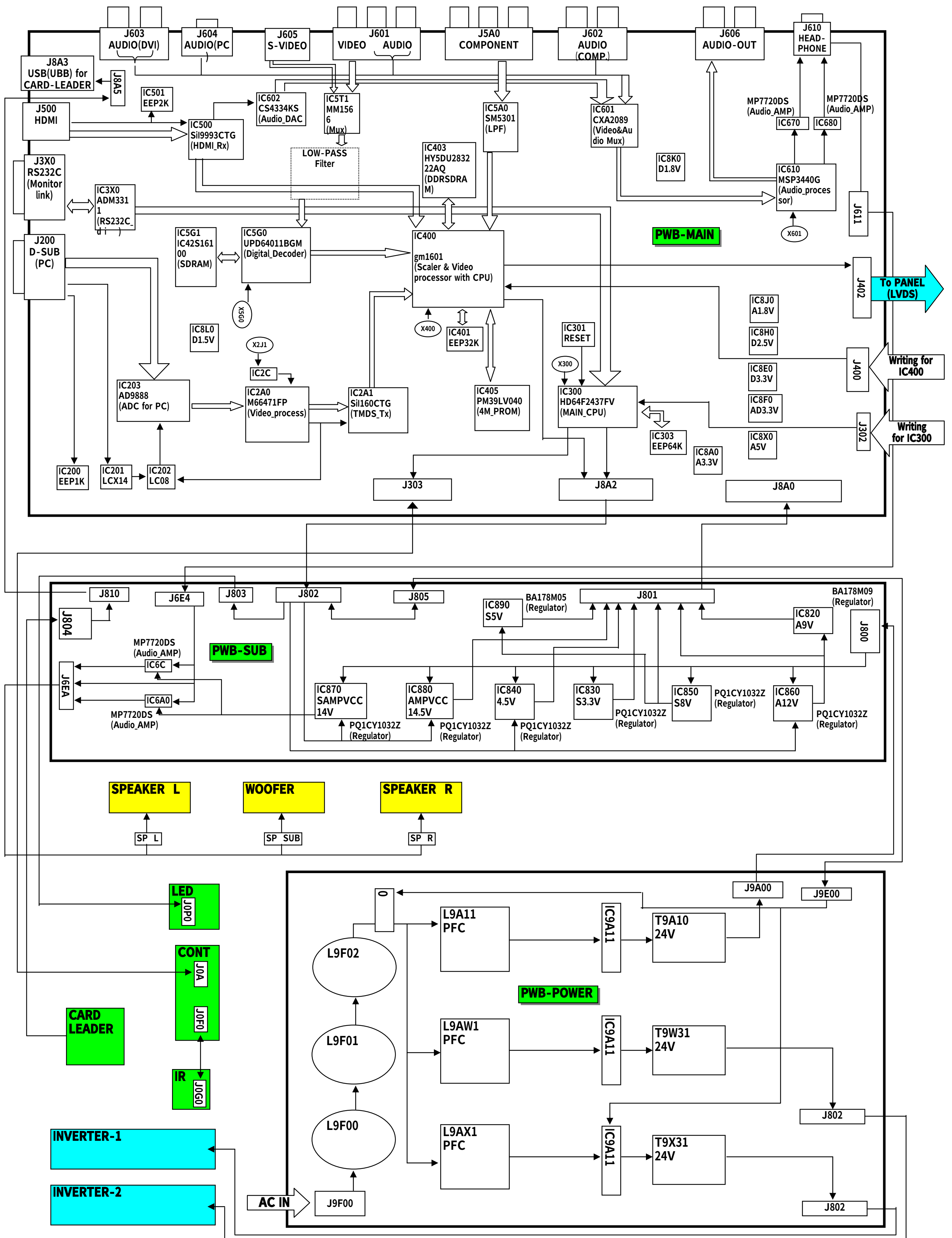
For power supply of L423FR, there are the power supply of "always on" and "ON/OFF" with a control signal.

Power source signal	Voltage [V]	"always on" or "ON/OFF"	Control signal	Output IC	Note
24V	24	ON/OFF	Psave1		For inverter
24V	24	always on	-		For MAIN/B, SUB/B
A12V	12	ON/OFF	Psave2	IC860	
A9V	9	ON/OFF	Psave2	IC820	
S8V	8	always on	-	IC850	
S5V	5	always on	-	IC890	
A5V	5	ON/OFF	Psave2	IC8X0	
AMPVCC	14	ON/OFF	Psave3	IC880	
SAMPVCC	14	ON/OFF	Psave3	IC870	
4.5V	4.5	ON/OFF	Psave2	IC840	
A3.3V	3.3	ON/OFF	Psave2	IC8A0	
D3.3V	3.3	ON/OFF	Psave2	IC8E0	
AD3.3V	3.3	ON/OFF	Psave2	IC8F0	
D2.5V	2.5	ON/OFF	Psave2.5	IC8H0	
A1.8V	1.8	ON/OFF	Psave2.5	IC8J0	
S3.3V	3.3	always on	-	IC830	
D1.8V	1.8	ON/OFF	Psave2.5	IC8K	
A1.5V	1.5	ON/OFF	Psave2	IC8L0	
D1.5V	1.5	ON/OFF	Psave2	IC8L0	

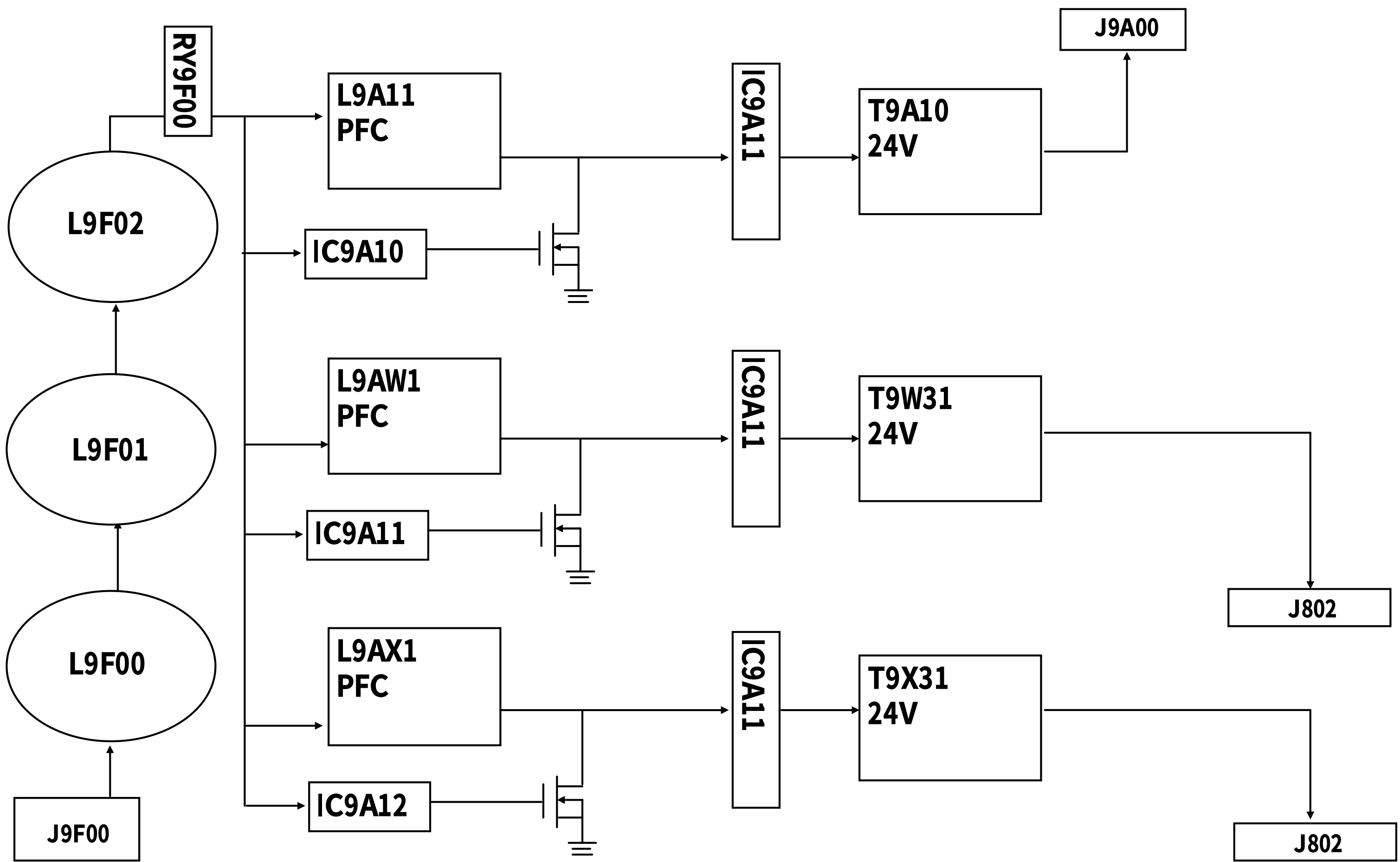
(P)IC9X10, IC9W10, IC9A10 ： Power supply control IC(power factor correction) (FA5501：FUJI)
This IC are control IC for a power factor correction converter using critical conduction mode of operation.
This IC performs a power factor correction by conversion the current waveform from triangle waveform to sine waveform.

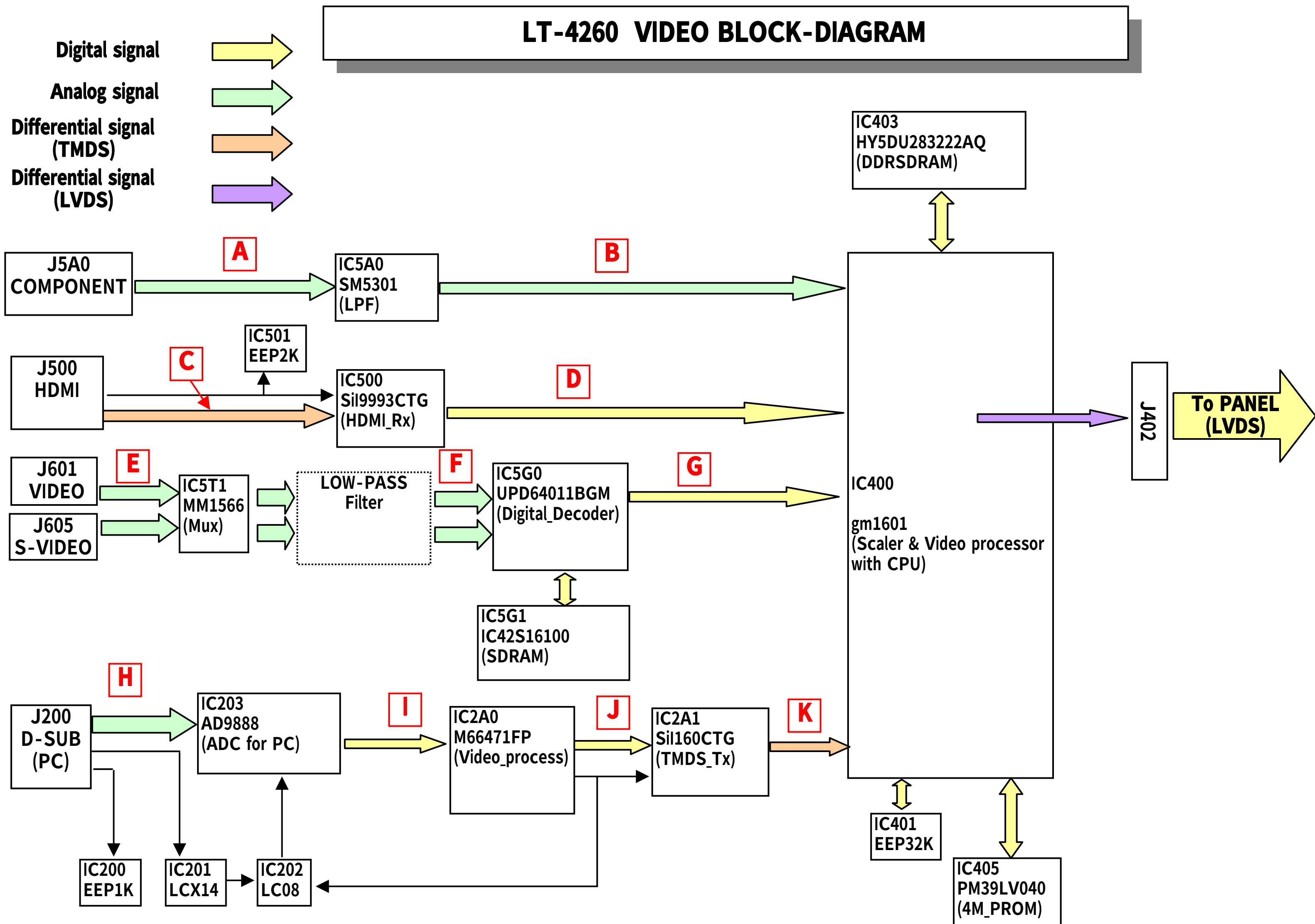
(P)IC9X11, IC9W11, IC9A11 ： Power supply voltage control IC (F9222：FUJI)
This IC controls the power supply voltage by switching about 100KHz.
This IC has MOSFET inside IC, keep switching on and off, and controls its duty to be stable output voltage.

LT-4260 BLOCK-DIAGRAM

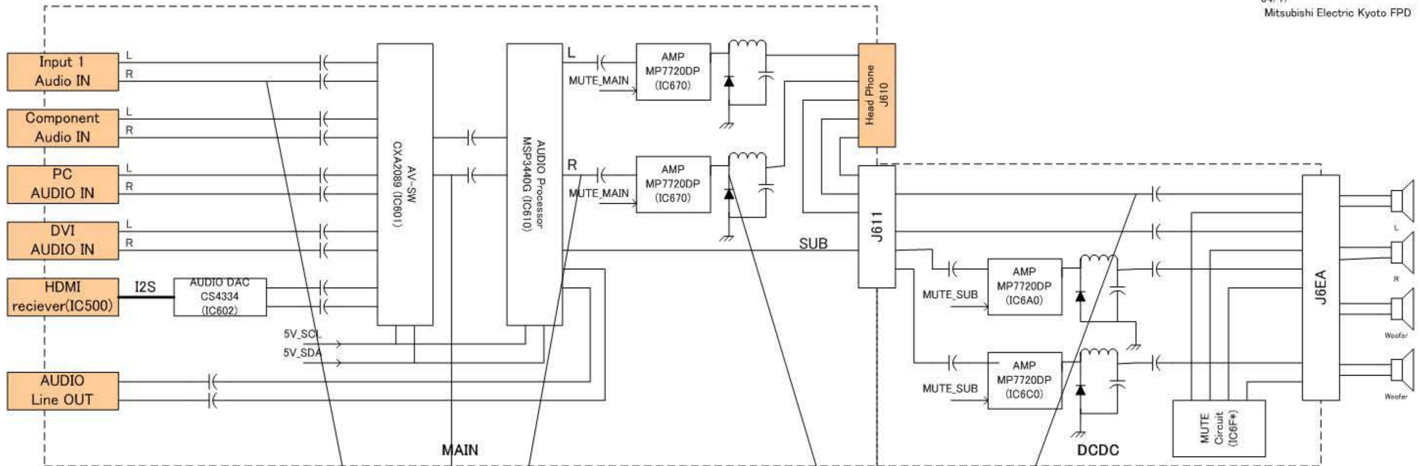


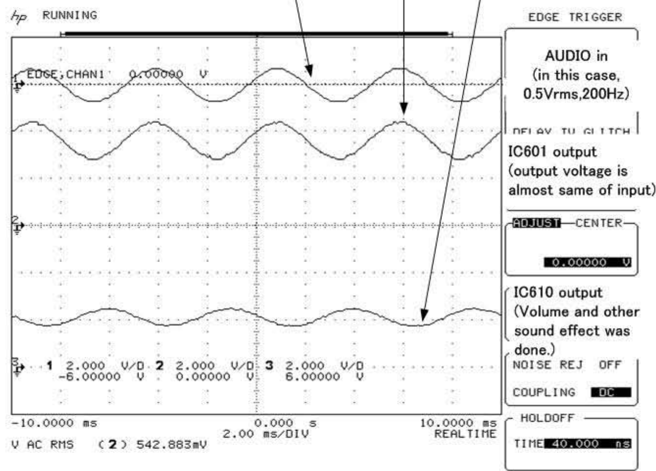
<POWER BLOCK> PCB-POWER only

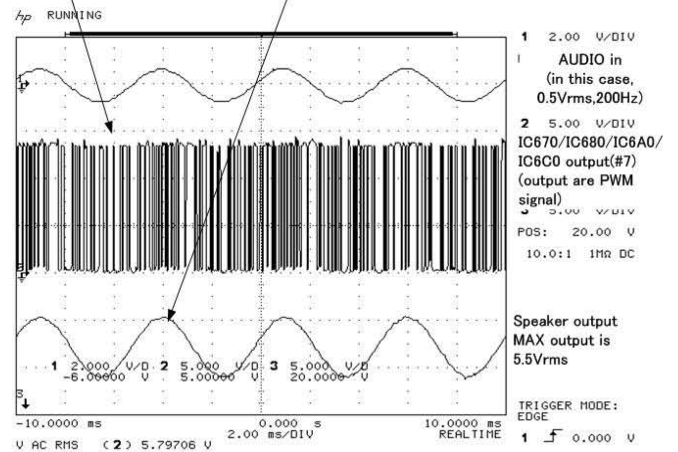



LT-4260 VIDEO BLOCK-DIAGRAM
Digital signal
Analog signal
Differential signal (TMDS)
Differential signal (LVDS)
IC403 HY5DU283222AQ (DDRSDRAM)
J5A0 COMPONENT
A
IC5A0 SM5301 (LPF)
B
IC501 EEP2K
J500 HDMI
C
IC500 SiI9993CTG (HDMI_Rx)
D
J402
To PANEL (LVDS)
J601 VIDEO
E
IC5T1 MM1566 (Mux)
LOW-PASS Filter
F
IC5G0 UPD64011BGM (Digital_Decoder)
G
J605 S-VIDEO
IC400
gm1601 (Scaler & Video processor with CPU)
IC5G1 IC42S16100 (SDRAM)
H
J200 D-SUB (PC)
IC203 AD9888 (ADC for PC)
I
IC2A0 M66471FP (Video_process)
J
IC2A1 SiI160CTG (TMDS_Tx)
K
IC401 EEP32K
IC405 PM39LV040 (4M_PROM)
IC200 EEP1K
IC201 LCX14
IC202 LC08

AUDIO Circuit block Diagram for LT-4260

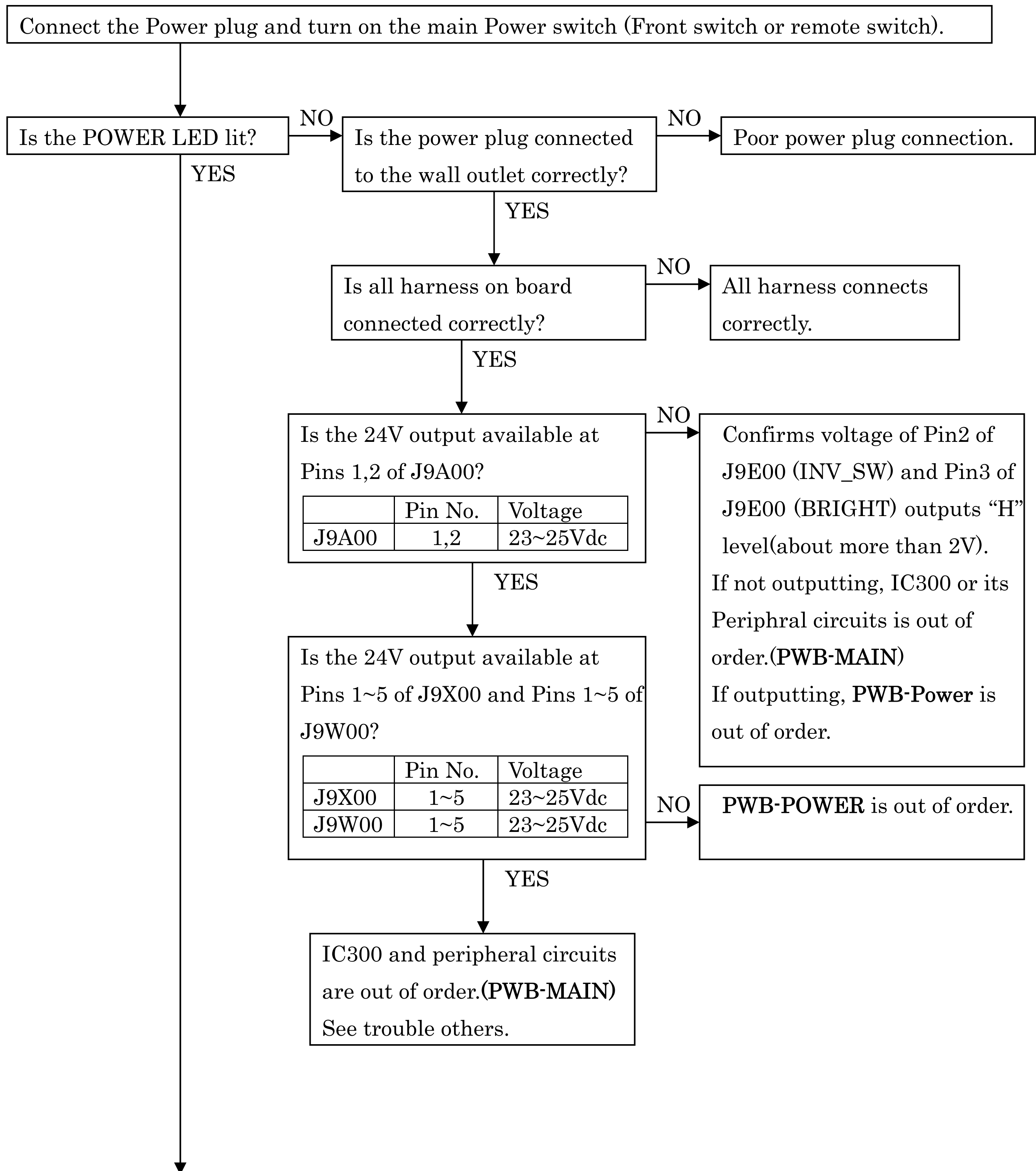






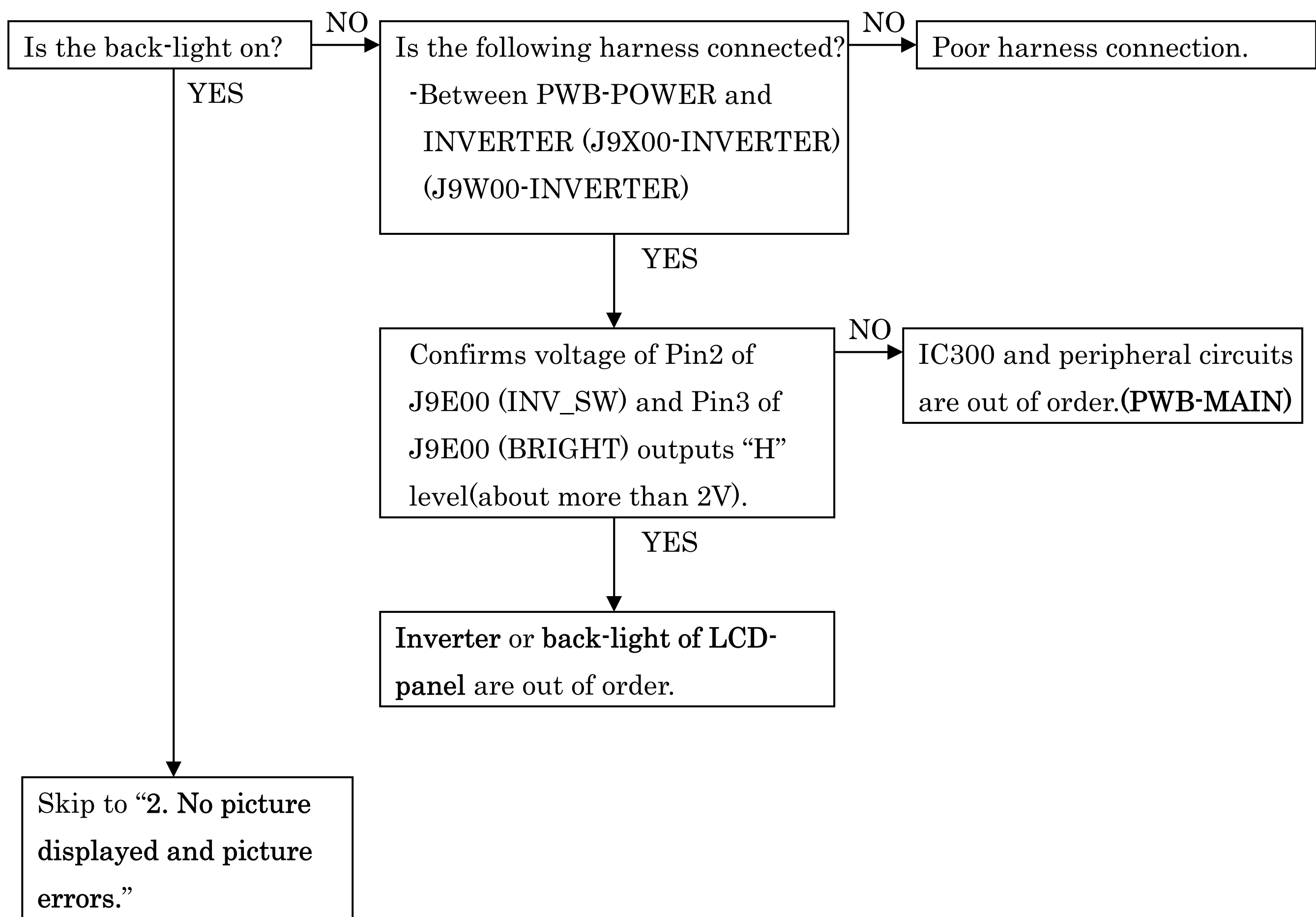
1. Power failure

(1)POWER is turned off.



(2) at next page

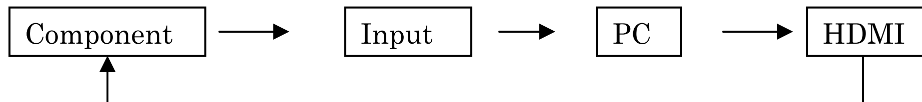
(2)in case of POWER-LED is lighting



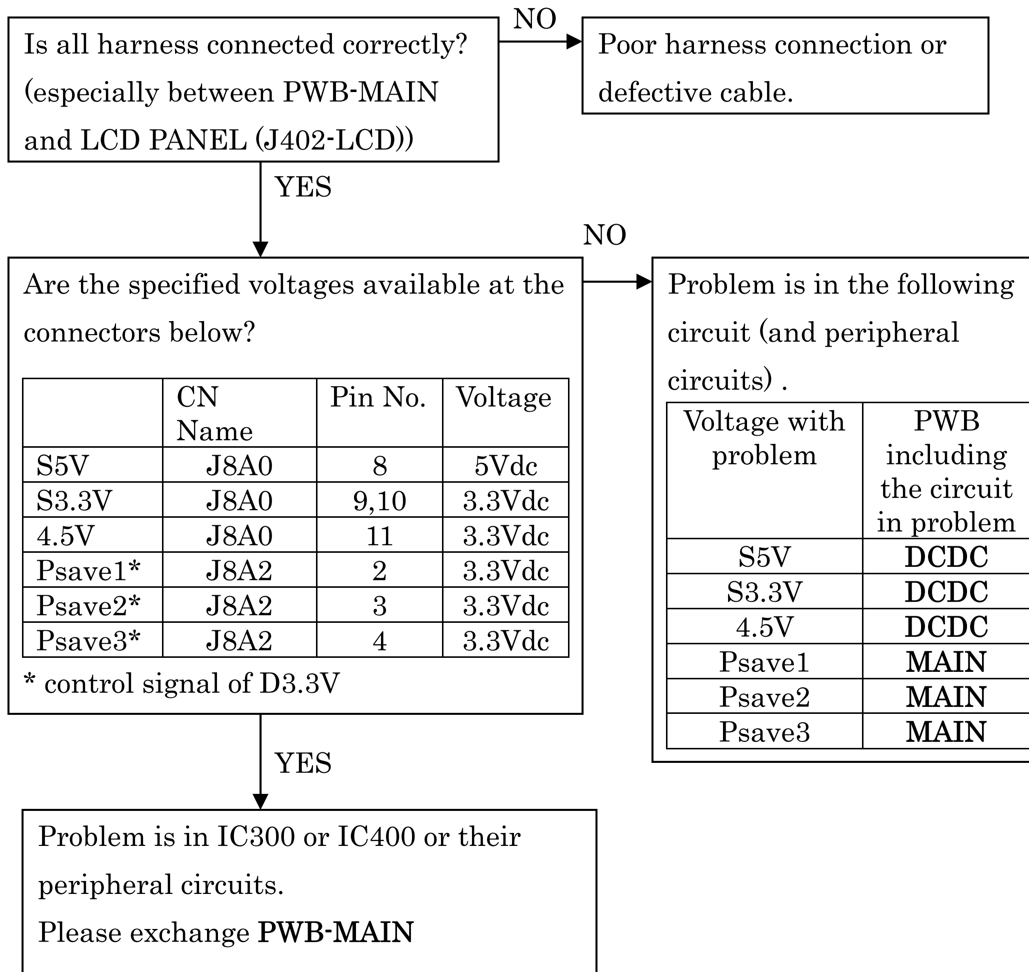
2. No picture displayed and picture errors.

Note) It applies when there is no screen display or an unusual screen is outputted, although 24V(Pin1,2 of J9A00) from PWB-POWER is outputted normally and the back light is turned on.

*Input source changes in following order with DEVICE UP button of remote control or DEVICE button of front switch.



2-1. No picture displayed and picture errors of all input.



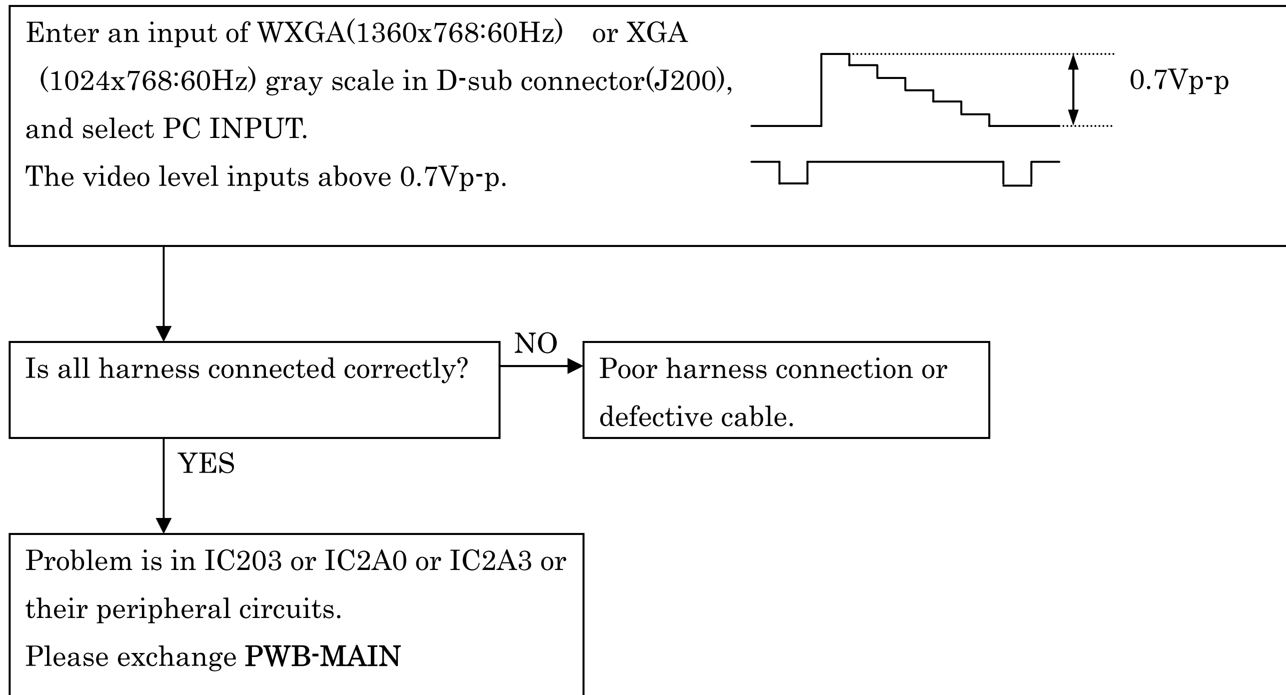
	CN Name	Pin No.	Voltage
S5V	J8A0	8	5Vdc
S3.3V	J8A0	9,10	3.3Vdc
4.5V	J8A0	11	3.3Vdc
Psave1*	J8A2	2	3.3Vdc
Psave2*	J8A2	3	3.3Vdc
Psave3*	J8A2	4	3.3Vdc

* control signal of D3.3V

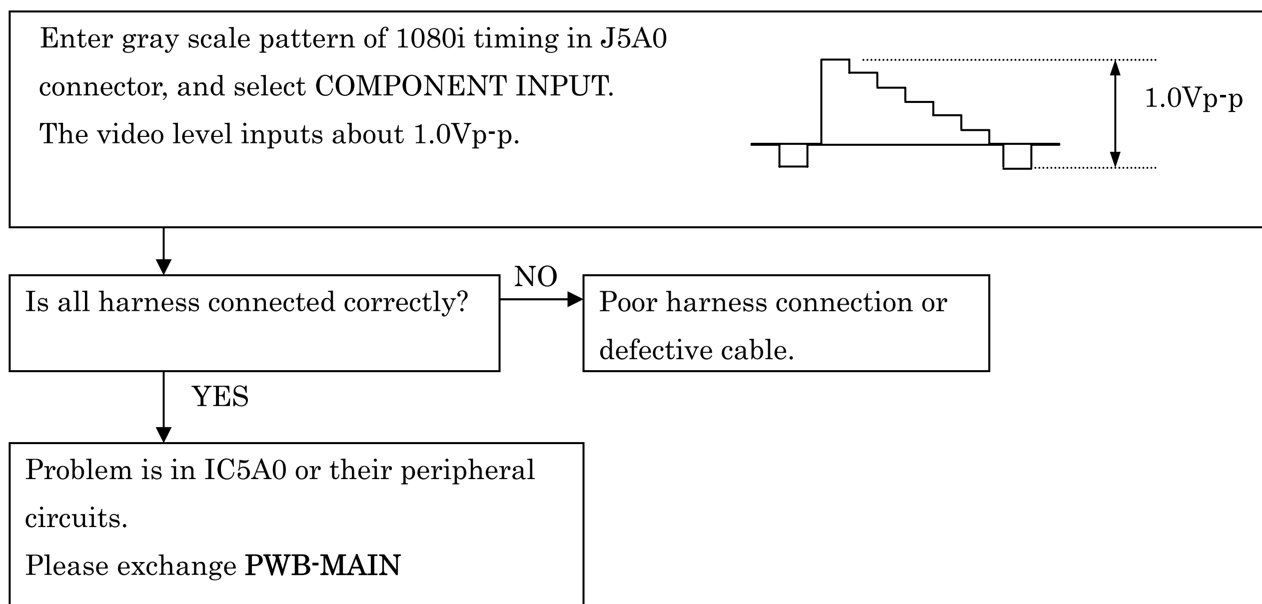
Voltage with problem	PWB including the circuit in problem
S5V	**DCDC**
S3.3V	**DCDC**
4.5V	**DCDC**
Psave1	**MAIN**
Psave2	**MAIN**
Psave3	**MAIN**

*When it cannot still fix, it may have a problem with LCD-Module.

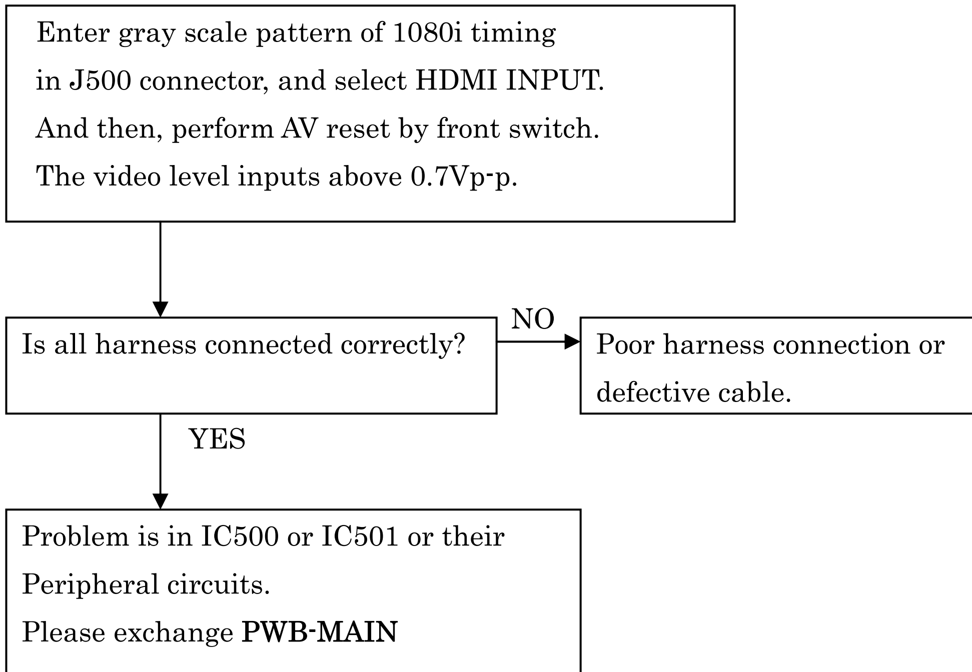
2-2. No picture displayed and picture errors of PC signal only.



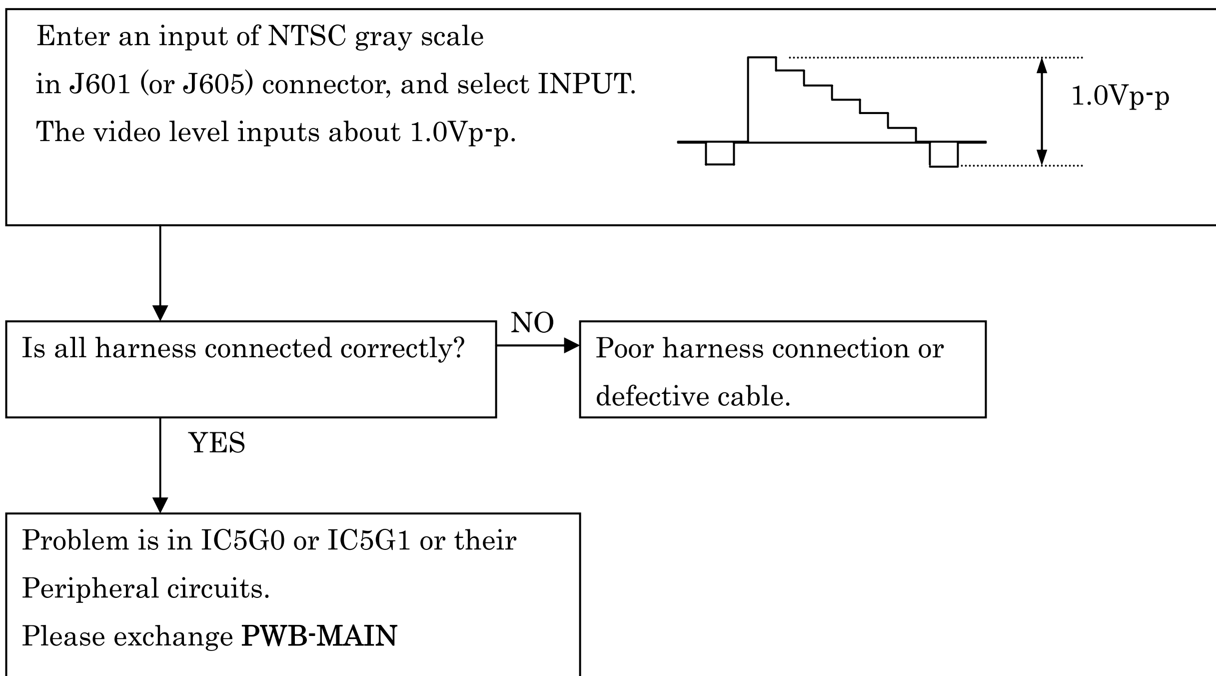
2-3. No picture displayed and picture errors of Component signal only.



2-4. No picture displayed and picture errors of HDMI signal only.

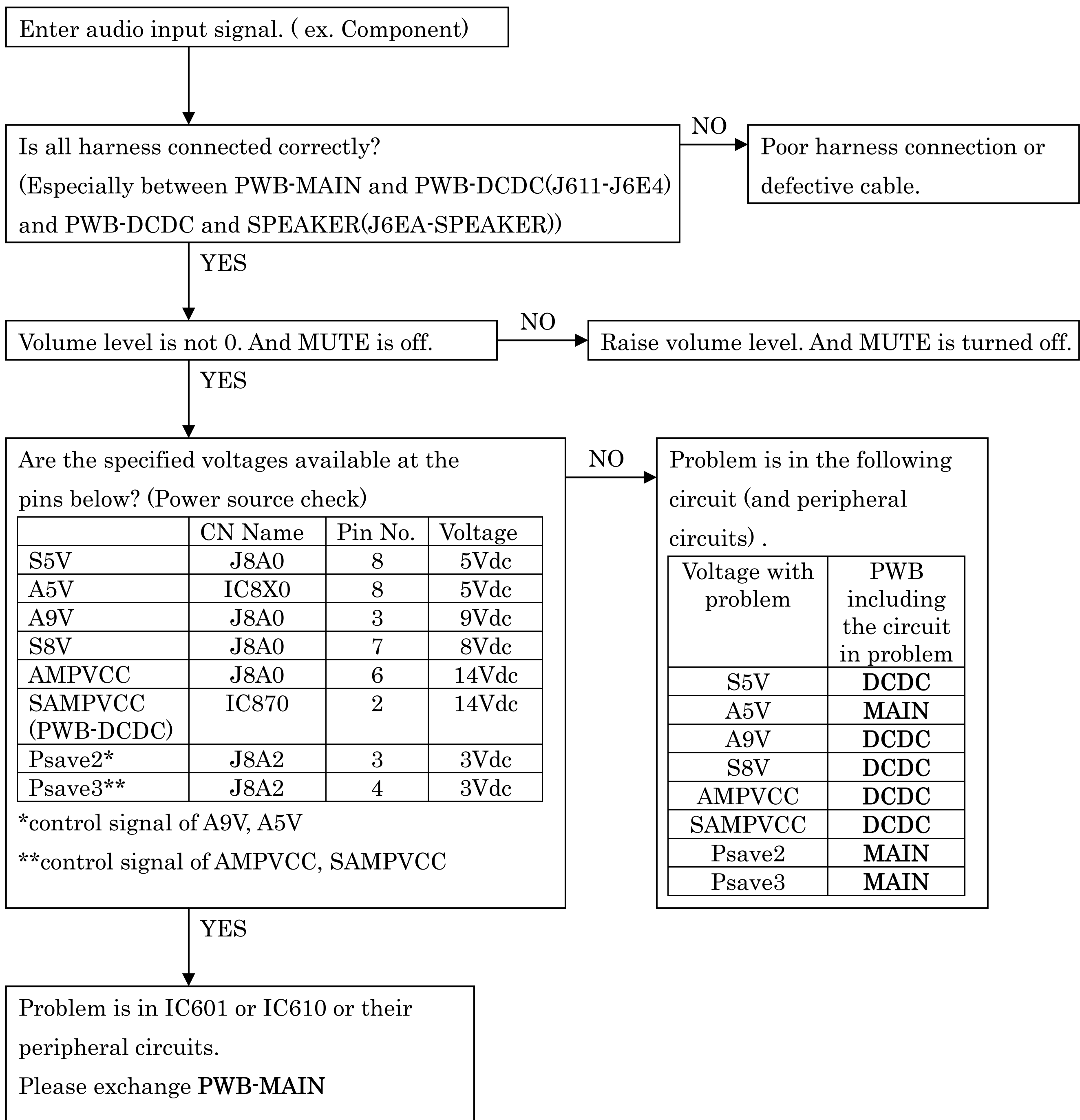


2-5. No picture displayed and picture errors of INPUT signal only(included S-Video).



3. No audio output generated.

3-1. No all audio output generated.



	CN Name	Pin No.	Voltage
S5V	J8A0	8	5Vdc
A5V	IC8X0	8	5Vdc
A9V	J8A0	3	9Vdc
S8V	J8A0	7	8Vdc
AMPVCC	J8A0	6	14Vdc
SAMPVCC (PWB-DCDC)	IC870	2	14Vdc
Psave2*	J8A2	3	3Vdc
Psave3**	J8A2	4	3Vdc

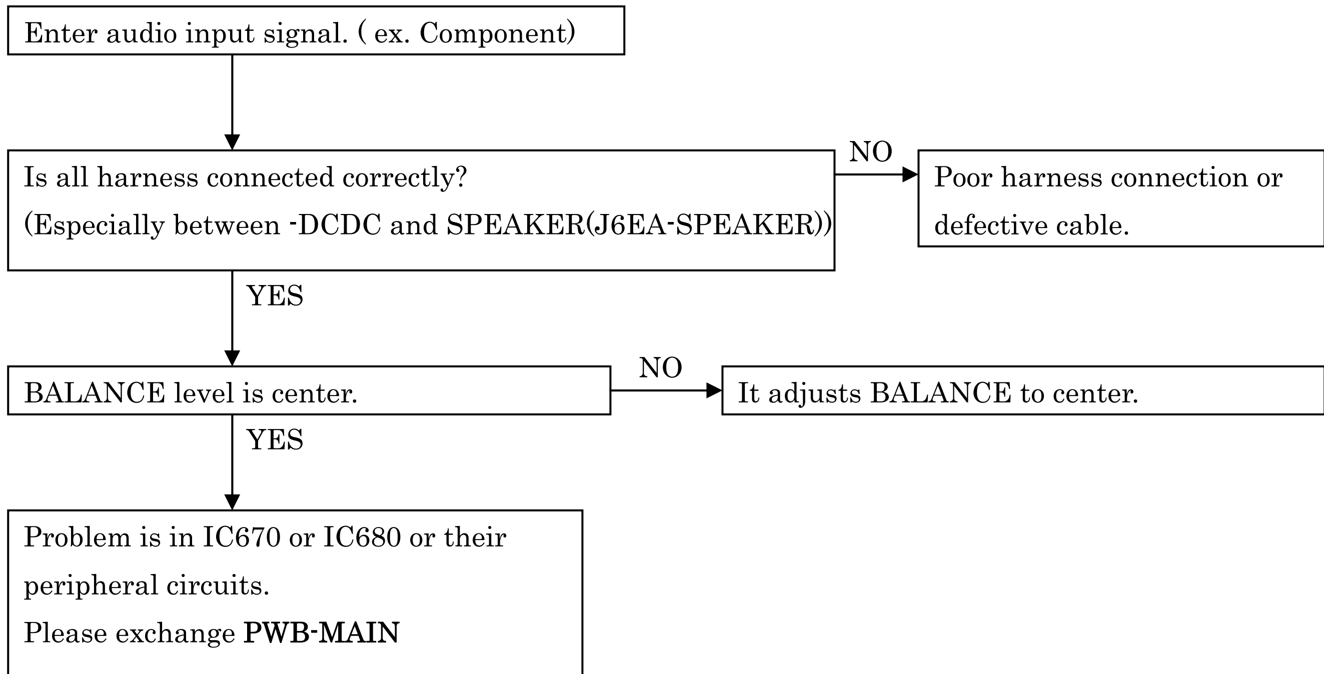
*control signal of A9V, A5V

**control signal of AMPVCC, SAMPVCC

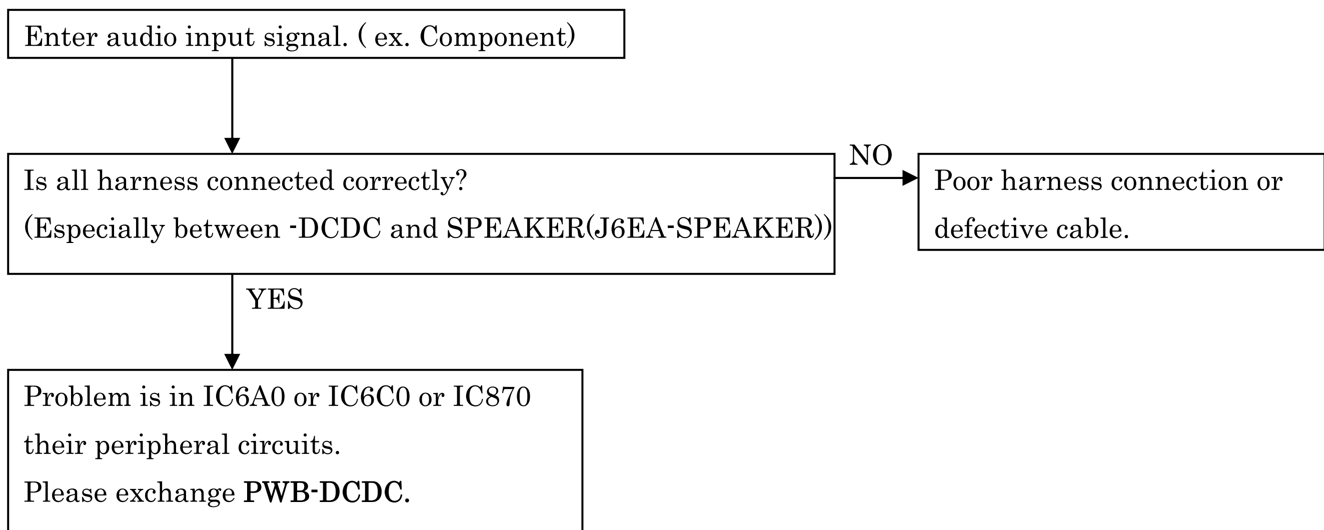
Voltage with problem	PWB including the circuit in problem
S5V	DCDC
A5V	MAIN
A9V	DCDC
S8V	DCDC
AMPVCC	DCDC
SAMPVCC	DCDC
Psave2	MAIN
Psave3	MAIN

*When it cannot still fix, it may have a problem with SPEAKER.

3-2. No each(L or R) of audio output generated.



3-3. No woofer of audio output generated.



3-4. No HDMI audio output generated.

In case of no HDMI audio output generates, problem is in IC500 or IC602 or their peripheral Circuits. Please exchange **PWB-MAIN.**

3-5. No each (component or INPUT or PC) audio output generated.

In case of no each (component or INPUT or PC) audio output generates, problem is in IC601 or connector of each input or their peripheral circuits. Please exchange **PWB-MAIN.**

4. Other faults

4-1. Remote control is not effective.

After checking the polarity of batteries, has it loaded correctly?
- NO → Load the batteries, making sure the polarities (-) and (+) are correct.
- YES ↓

Regarding as the slide switch at the top of the remote, does it set as “TV”?
- NO → It sets the slide switch as “TV”.
- YES ↓

Does it use within 20 feet?
- NO → it uses within 20 feet.
- YES ↓

It does not operate, even if it exchanges for new batteries.
- NO → It exchanges on new batteries.
- YES ↓

When it pushes the remote switch, is the signal below available at pin 8,6, of J303 (remote switch use) ?

8: 3Vp-p

6 5Vdc

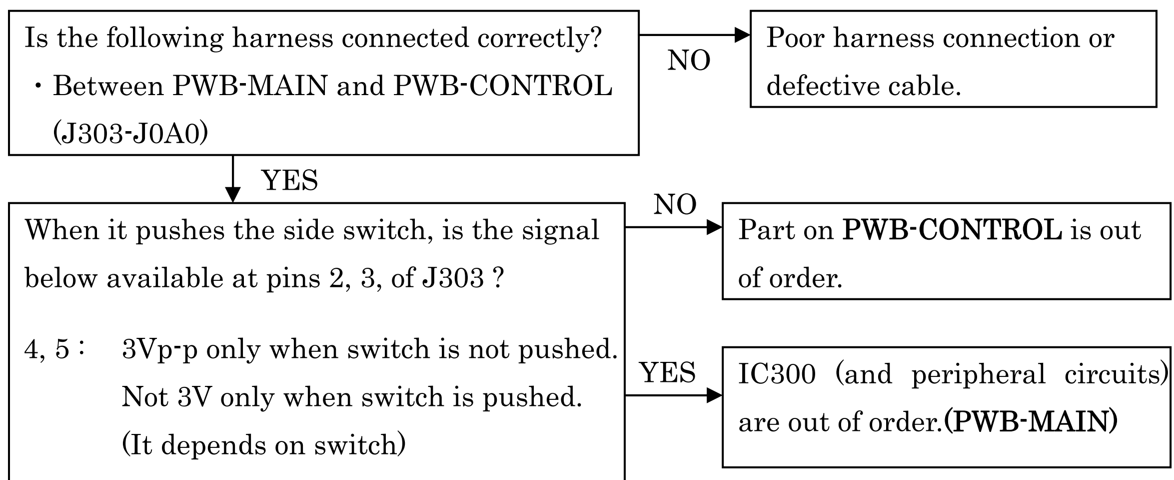
- NO → Problem is in the following PWB (and peripheral circuits).

Pin with problem	PWB including the circuit in problem
8 of J303	**IR**
6 of J303	**MAIN**

- YES ↓

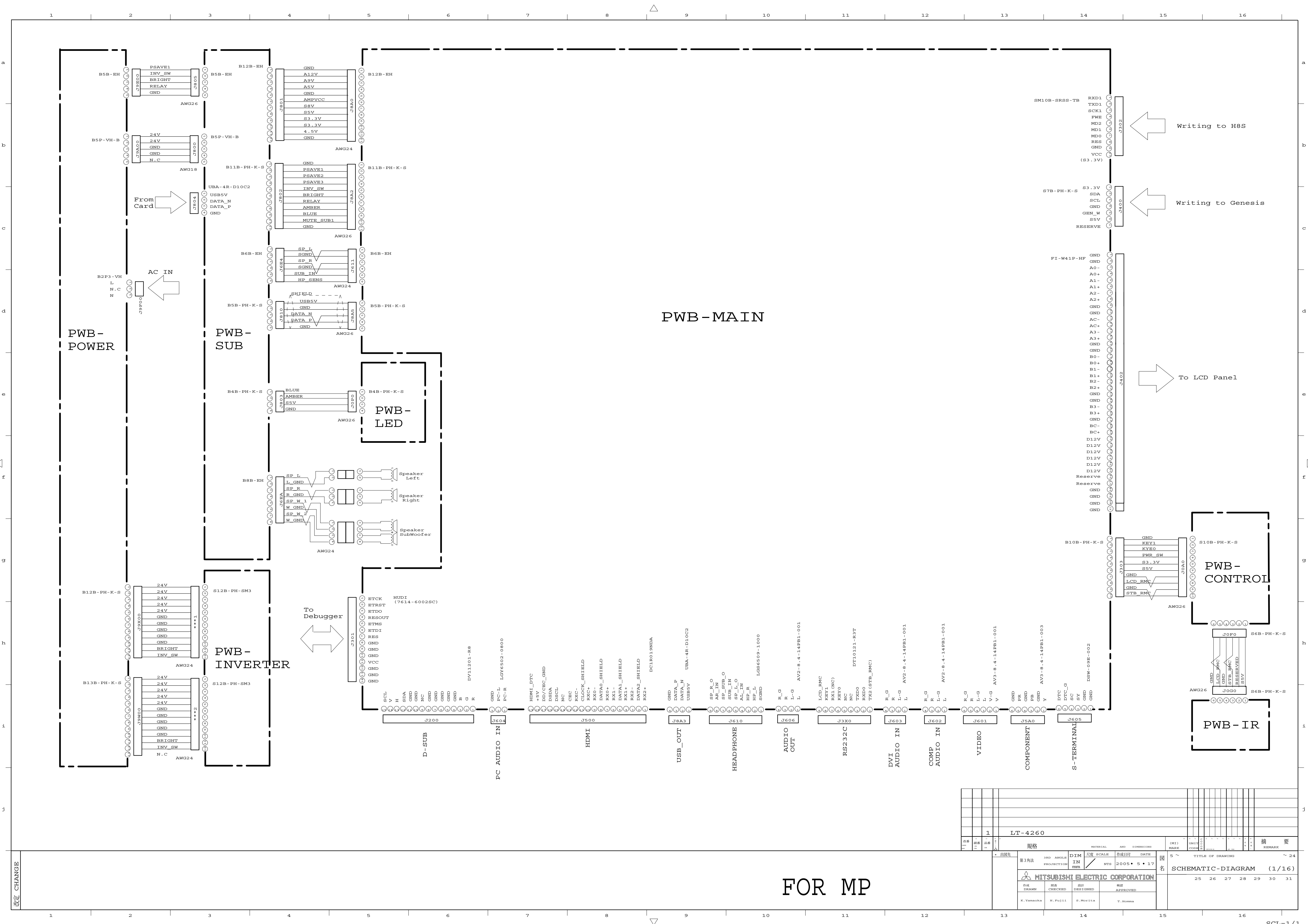
Problem is in IC300 or their peripheral circuits.
Please exchange **PWB-MAIN**

4-2. Side switch is not effective.

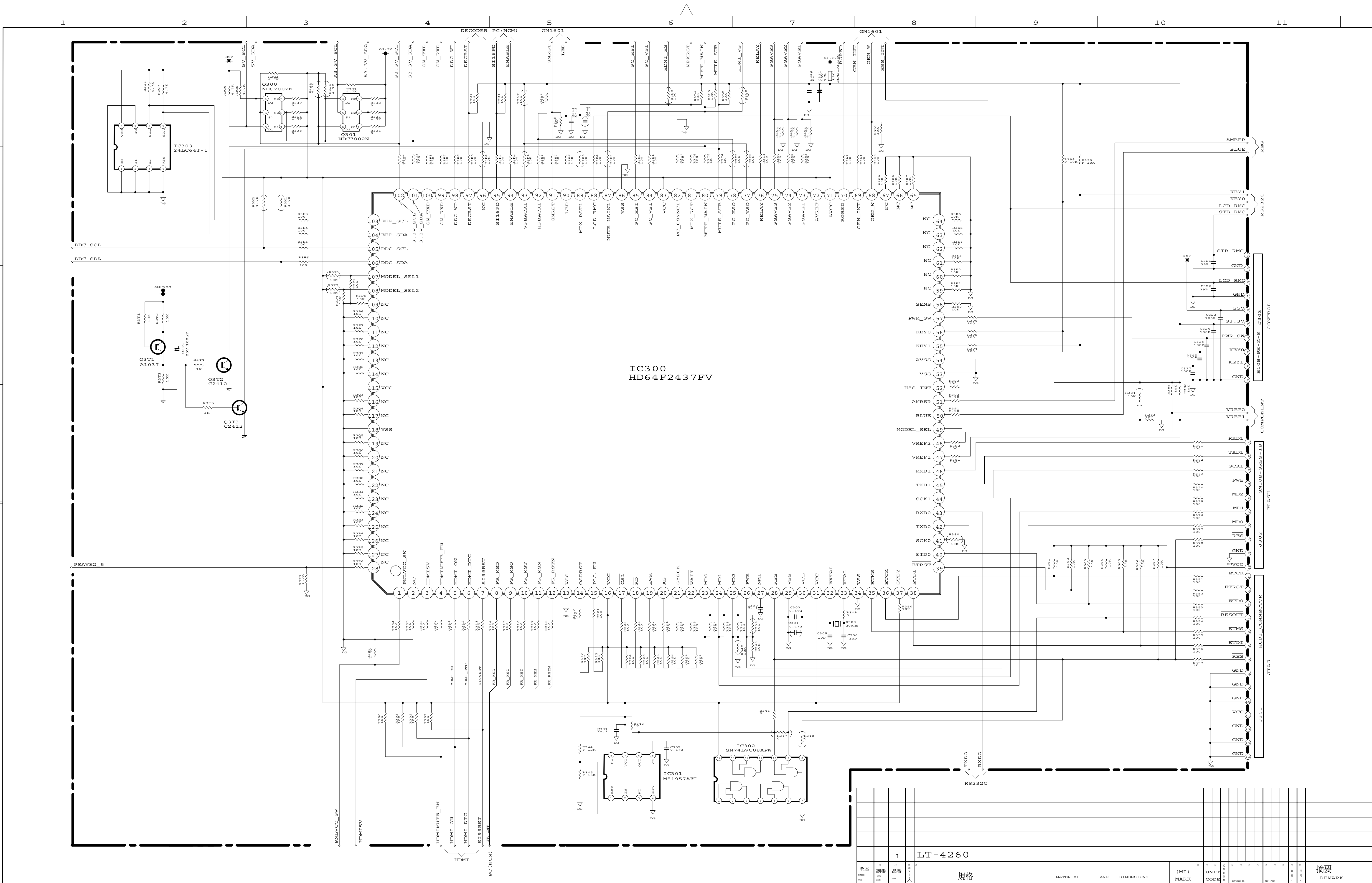


LT-4260 Parts List

Part Number	Description
03A684088	LCD-(LC420W02-A4K3) (T/A REQ)
LM-42T	MOUNT-PLASMA TILT
10106291	BACK-UNIT
10106221	BRACKET BEZEL TC ASSY
10108521	BEZEL-UNIT
RE080031	CABLE-USB HGRY USB 1.8M
RE010072	CABLE-VIDEO BLK DSUB-DSUB 2M
RG021011	CORD-POWER(2M)
11002861	COVER-REAR
11002871	COVER-REAR M
11002841	COVER-RIGHT
11002851	COVER-TERMINAL R
11302251	ORNAMENT
NLNJ01AY	PLATE-COSMETIC
AP0FR1ML	POWER-UNIT (HS210N2J) (T/A REQ)
AM0FR1ML	PWB-MAIN (LT-4260) (T/A REQ)
AS0FR1ML	PWB-SUB
290P118030	REMOTE
12301601	STAND-BASE BRACKET
12301641	STAND-BRACKET B
12301631	STAND-BRACKET L
12301611	STAND-BRACKET R
11002881	STAND-COVER BASE
11002891	STAND-COVER BOTTOM
11002911	STAND-COVER L
11002901	STAND-COVER R
H5100171	TRANSF-POWER



PWB-POWER
PWB-SUB
PWB-MAIN
PWB-LED
PWB-INVERTER
PWB-CONTROL
PWB-IR
From Card
AC IN
To Debugger
Writing to H8S
Writing to Genesis
To LCD Panel
Speaker Left
Speaker Right
Speaker SubWoofer
D-SUB
PC AUDIO IN
HDMI
USB_OUT
HEADPHONE
AUDIO OUT
RS232C
DVI AUDIO IN
COMP AUDIO IN
VIDEO
COMPONENT
S-TERMINAL
LT-4260
MITSUBISHI ELECTRIC CORPORATION
SCHEMATIC-DIAGRAM (1/16)
2005・5・17
FOR MP
SCL=1/1



改定 CHANGE

MP

改番 | 調番 | 品番 | 規格 | MATERIAL AND DIMENSIONS | (MI) MARK | UNIT CODE | 摘要 REMARK

出図先

第3角法 3RD ANGLE PROJECTION | DIM IN mm | 尺度 SCALE NTS | 作成日付 DATE 2005• 5• 17

図名 TITLE OF DRAWING
uCON(MAIN)
SCHEMATIC-DIAGRAM (2/16)

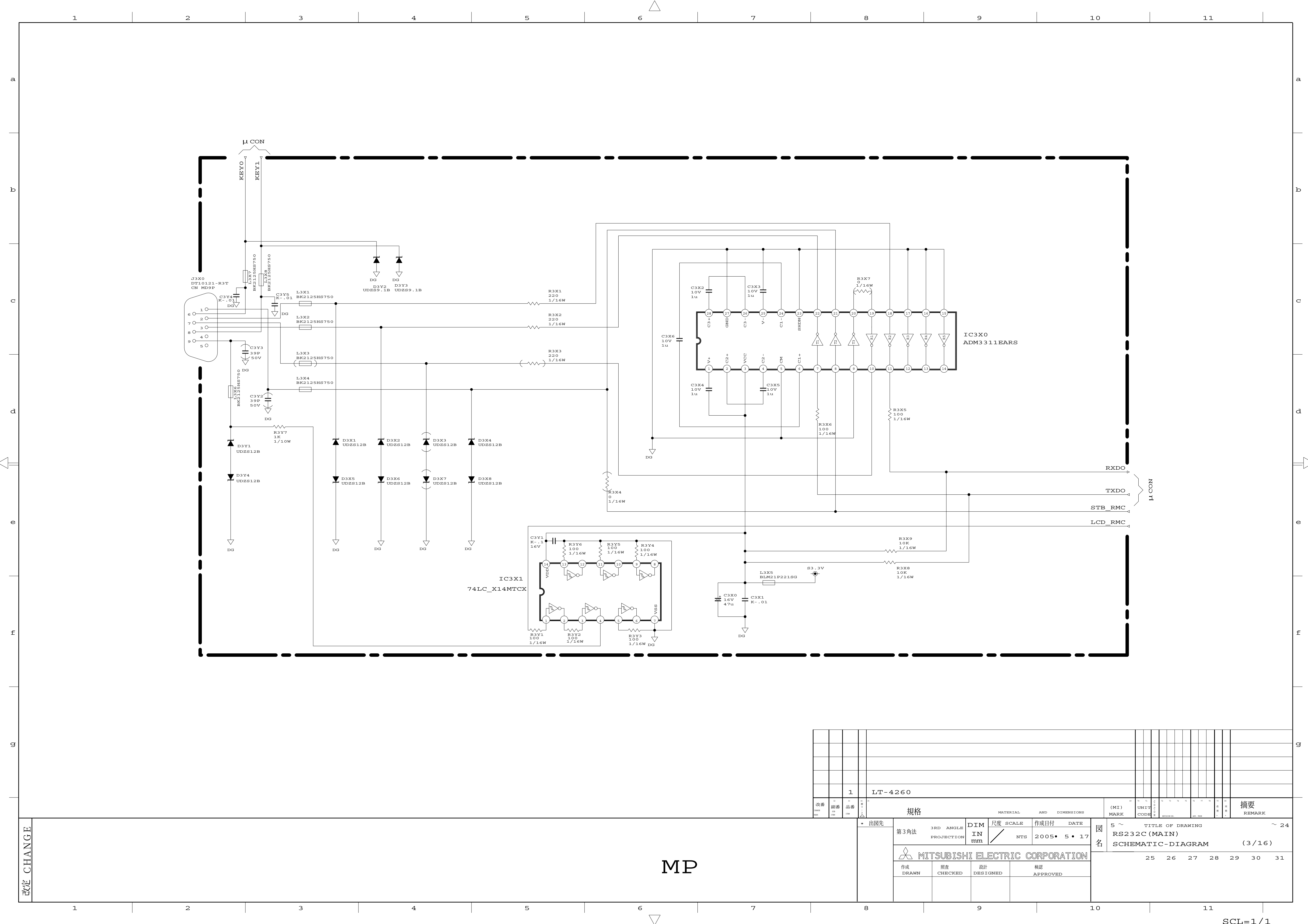
5 ~ ~ 24

25 26 27 28 29 30 31

MITSUBISHI ELECTRIC CORPORATION

作成 DRAWN | 照査 CHECKED | 設計 DESIGNED | 検認 APPROVED

SCL=1/1.4



μ CON
KEY0
KEY1
J3X0
DT10121-R3T
CN MD9P
C3Y4
K-.01
L3X7
BK2125HS750
L3X8
BK2125HS750
C3Y5
K-.01
D3Y2
UDZS9.1B
D3Y3
UDZS9.1B
L3X1
BK2125HS750
L3X2
BK2125HS750
L3X3
BK2125HS750
L3X4
BK2125HS750
C3Y3
39P
50V
L3X6
BK2125HS750
C3Y2
39P
50V
R3X1
220
1/16W
R3X2
220
1/16W
R3X3
220
1/16W
R3Y7
1K
1/10W
D3Y1
UDZS12B
D3Y4
UDZS12B
D3X1
UDZS12B
D3X2
UDZS12B
D3X3
UDZS12B
D3X4
UDZS12B
D3X5
UDZS12B
D3X6
UDZS12B
D3X7
UDZS12B
D3X8
UDZS12B
DG
C3X2
10V
1u
C3X3
10V
1u
R3X7
0
1/16W
C3X6
10V
1u
IC3X0
ADM3311EARS
C3X4
10V
1u
C3X5
10V
1u
R3X5
100
1/16W
R3X6
100
1/16W
R3X4
0
1/16W
RXDO
TXDO
STB_RMC
LCD_RMC
μ CON
C3Y1
K-.1
16V
R3Y6
100
1/16W
R3Y5
100
1/16W
R3Y4
100
1/16W
IC3X1
74LC_X14MTCX
R3Y1
100
1/16W
R3Y2
100
1/16W
R3Y3
100
1/16W
R3X9
10K
1/16W
R3X8
10K
1/16W
L3X5
BLM21P221SG
S3.3V
C3X0
16V
47u
C3X1
K-.01
1
LT-4260
改番 CHANGE
品番
規格
MATERIAL AND DIMENSIONS
(MI) MARK
UNIT CODE
摘要 REMARK
出図先
第3角法 3RD ANGLE PROJECTION
DIM IN mm
尺度 SCALE
NTS
作成日付 DATE
2005・5・17
図名
TITLE OF DRAWING
RS232C(MAIN)
SCHEMATIC-DIAGRAM
(3/16)
5 ~
~ 24
25 26 27 28 29 30 31
MITSUBISHI ELECTRIC CORPORATION
作成 DRAWN
照査 CHECKED
設計 DESIGNED
検認 APPROVED
改定 CHANGE
MP
SCL=1/1

PCI/F用 Dsub15

J200 DV11201-P8

R G B GND GND GND GND GND NC GND GND SDA H V SCL

IC200 24LC21TSN/BR24C21F

IC201 74LCX14MTCX

IC202 SN74LVC08APW

IC204 74LCX74MTCX

IC203 AD9888KS-170

DDC_SDA DDC_SCL DDC_WP (TO μCON)

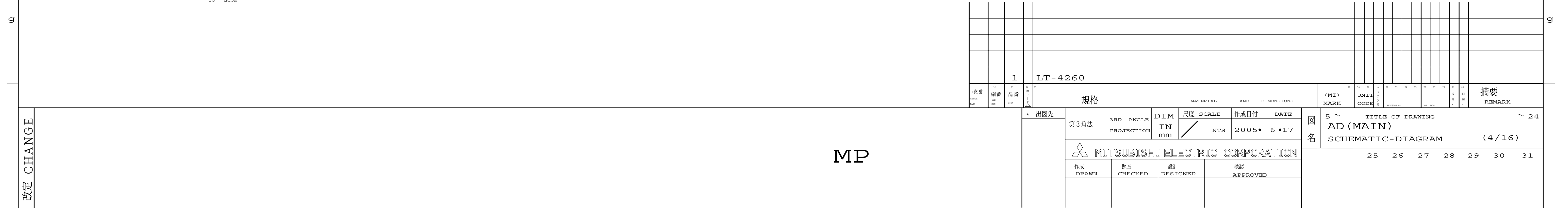
FR_VS FR_HS FR_CLK (TO PROIS2)

FR_OB[7-0] FR_EB[7-0] FR_OG[7-0] FR_EG[7-0] FR_OR[7-0] FR_ER[7-0] (TO PROIS2)

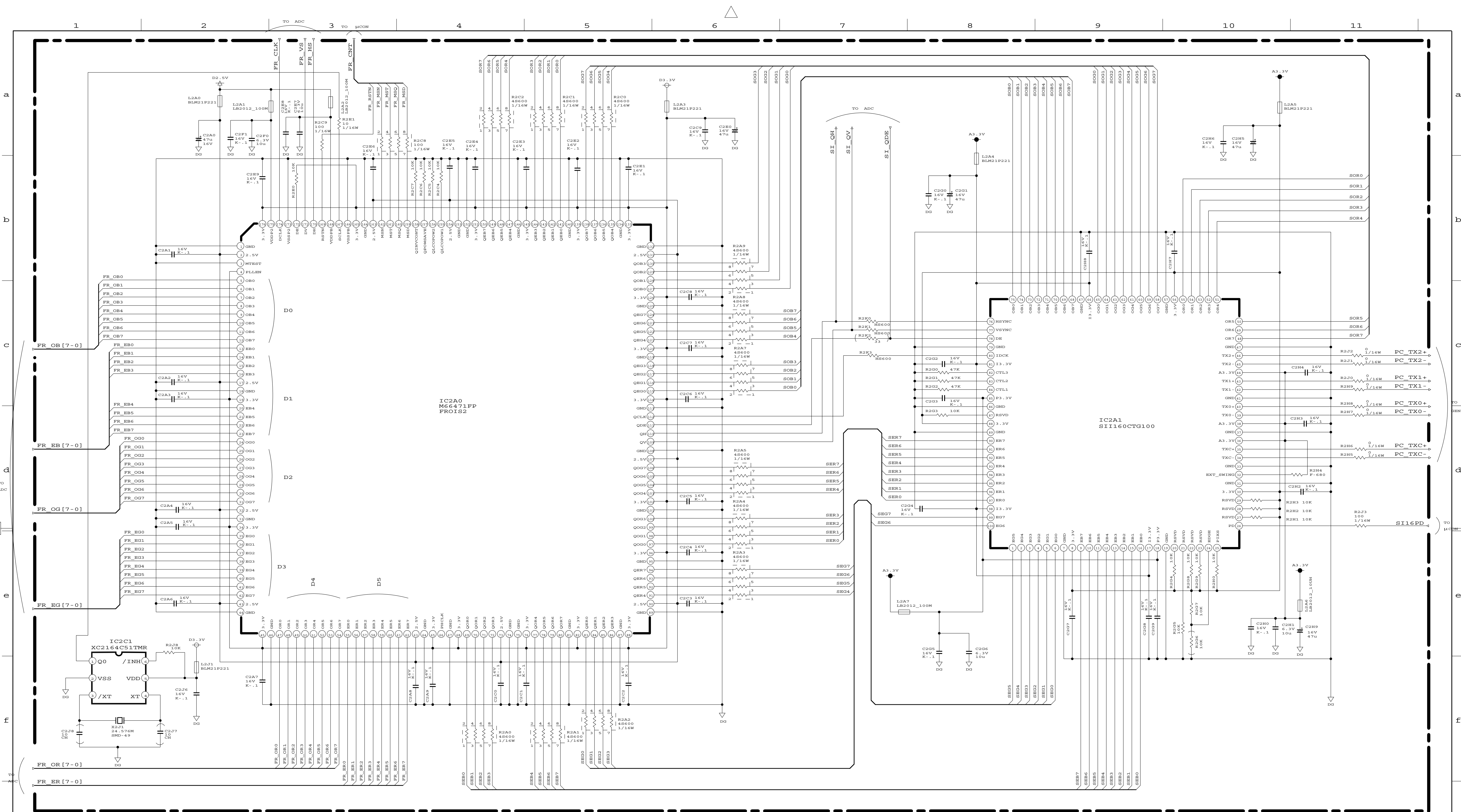
PC_HSI PC_VSI ENABLE (TO μCON)

SI_QDE SI_QV SI_QH (TO PROIS2)

A3.3V_SDA A3.3V_SCL (TO μCON)



SCL=1/1.2



	1	LT-4260

改番 頁番 品番 規格 MATERIAL AND DIMENSIONS (MI) MARK UNIT CODE 摘要 REMARK

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第3角法 3RD ANGLE PROJECTION

DIM IN mm

尺度 SCALE NTS

作成日付 DATE 2005・5・17

図名 TITLE OF DRAWING

FROIS2(MAIN)
SCHEMATIC-DIAGRAM (5/16)

5 ~ 24
25 26 27 28 29 30 31

MITSUBISHI ELECTRIC CORPORATION

作成 DRAWN 照査 CHECKED 設計 DESIGNED 検認 APPROVED

MP

改定 CHANGE

SCL=1/1.2

TO μCON

VREF2 VREF1

R5C5 F-33K 1/16W

R5C6 F-1.2K 1/16W

Q5A0 C2412K/C3928A

R5C7 F-3K 1/16W

R5C9 4.7K 1/16W

Q5A1 C2412K/C3928A

R5C8 F-15K 1/16W

R5E0 4.7K 1/16W

A5V

L5A3 FLC32CT-100K

D5A0 DAN217

C5A4 6.3V 10u

C5A5 16V 100u

C5A3 K-.01

C5A6 K-.01

R5A3 4.7K 1/16W

C5A0 10V .47

R5A4 100 1/16W

R5A5 100 1/16W

R5A6 100 1/16W

R5A7 4.7K 1/16W

R5A8 4.7K 1/16W

C5A7 K-.01

R5A9 F-820 1/16W

C5A8 K-.01

C5A9 K-.01

COMP_Pr

J5A0 AV3-8.4-14PB1-003

Pr-G, Pr, Pb-G, Pb, Y-G, Y

L5A0 BLM21B050SPT

L5A1 BLM21B050SPT

L5A2 BLM21B050SPT

D5A1 DAN217

IC5A0 SM5301A

NC, Pr2, GS1, Pr1, 5V, SYNCIN, MUXSEL, VFC, RFC, GND, 5V, PrOUT, GND, 5V

Y1, GS1, Y2, NC, Pb1, GS1, Pb2, NC, DISABLE, GND, PbOUT, 5V, GND, YOUT

C5A1 10V .47

C5A2 10V .47

R5A1 75-F 1/4W

R5A2 75-F 1/4W

R5A0 75-F 1/4W

D5A2 DAN217

R5C0 100 1/16W

R5C1 100 1/16W

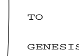
R5C2 100 1/16W

R5C3 100 1/16W

R5C4 100 1/16W

C5C0 K-.01

TO GENESIS



R5E5 100 1/16W

R5E6 100 1/16W

COMP_Y

COMP_Pb

1	LT-4260

改番 頒番 品番 規格 MATERIAL AND DIMENSIONS (MI) MARK UNIT CODE 摘要 REMARK

出図先

第3角法 3RD ANGLE PROJECTION

DIM IN mm

尺度 SCALE NTS

作成日付 DATE 2005• 5• 17

図名 5 ~ TITLE OF DRAWING ~ 24

COMPONENT SW(MAIN)

SCHEMATIC-DIAGRAM (6/16)

25 26 27 28 29 30 31

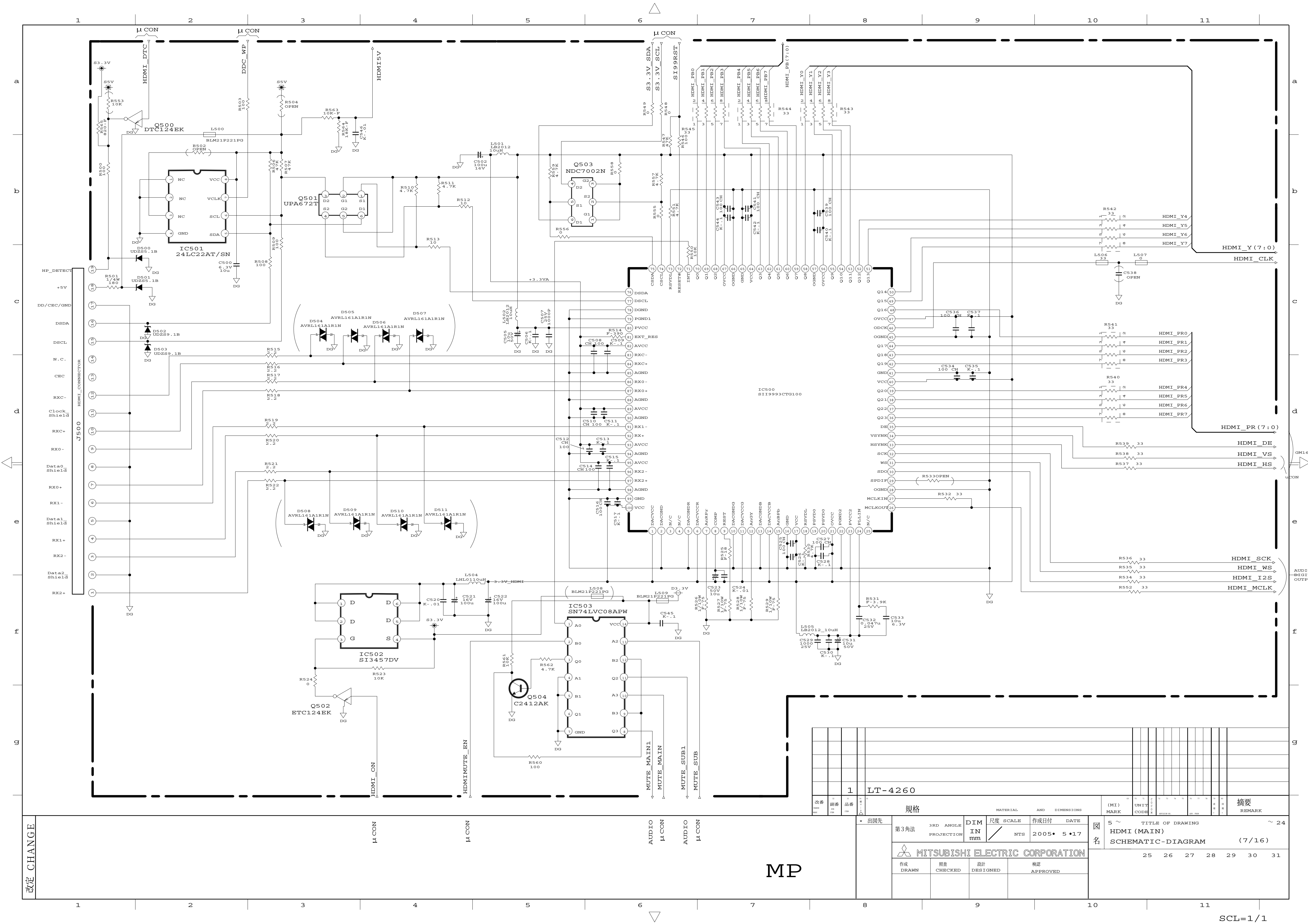
MITSUBISHI ELECTRIC CORPORATION

作成 DRAWN 照査 CHECKED 設計 DESIGNED 検認 APPROVED

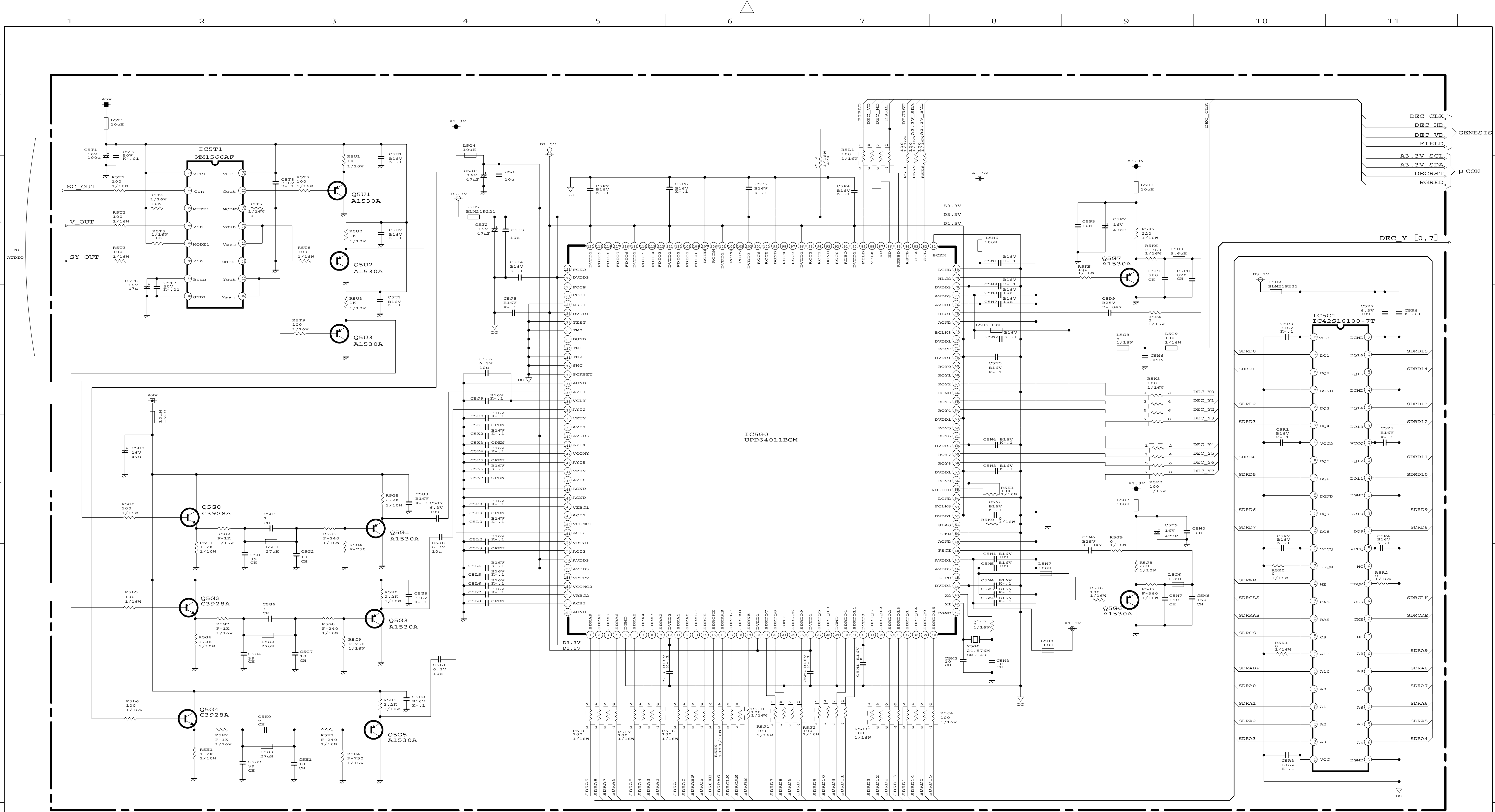
改定 CHANGE

MP

SCL=1/1



HDMI (MAIN)
SCHEMATIC-DIAGRAM
(7/16)
LT-4260
MITSUBISHI ELECTRIC CORPORATION
2005・5・17
IC500 SII9993CTG100
IC501 24LC22AT/SN
IC502 SI3457DV
IC503 SN74LVC08APW
Q500 DTC124EK
Q501 UPA672T
Q502 ETC124EK
Q503 NDC7002N
Q504 C2412AK
J500 HDMI_CONNECTOR
HDMI_Y(7:0)
HDMI_CLK
HDMI_PR(7:0)
HDMI_DE
HDMI_VS
HDMI_HS
HDMI_SCK
HDMI_WS
HDMI_I2S
HDMI_MCLK
AUDIO DIGITAL OUTPUT
HDMI_ON
HDMIMUTE_EN
MUTE_MAIN1
MUTE_MAIN
MUTE_SUB1
MUTE_SUB
MP
SCL=1/1



1	LT-4260

改番 | 記事 | 品番 | 規格 | MATERIAL AND DIMENSIONS | (MI) MARK | UNIT CODE | 摘要 REMARK

出図先

第3角法 3RD ANGLE PROJECTION

DIM IN mm

尺度 SCALE: NTS

作成日付 DATE: 2005•5 •17

図名 TITLE OF DRAWING: DECODER(MAIN) SCHEMATIC-DIAGRAM (8/16)

5 ~ 24

25 26 27 28 29 30 31

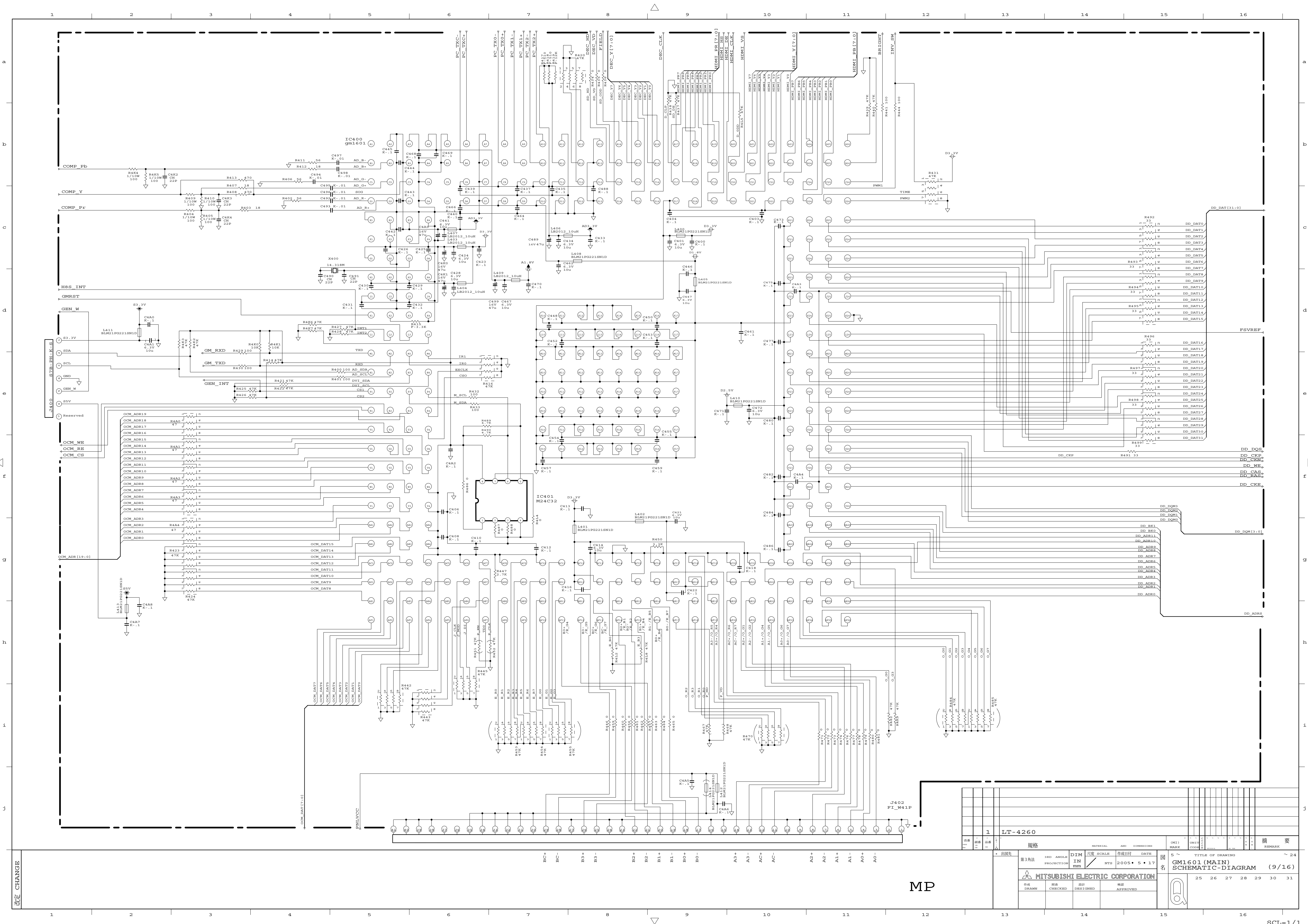
MITSUBISHI ELECTRIC CORPORATION

作成 DRAWN | 照査 CHECKED | 設計 DESIGNED | 検認 APPROVED

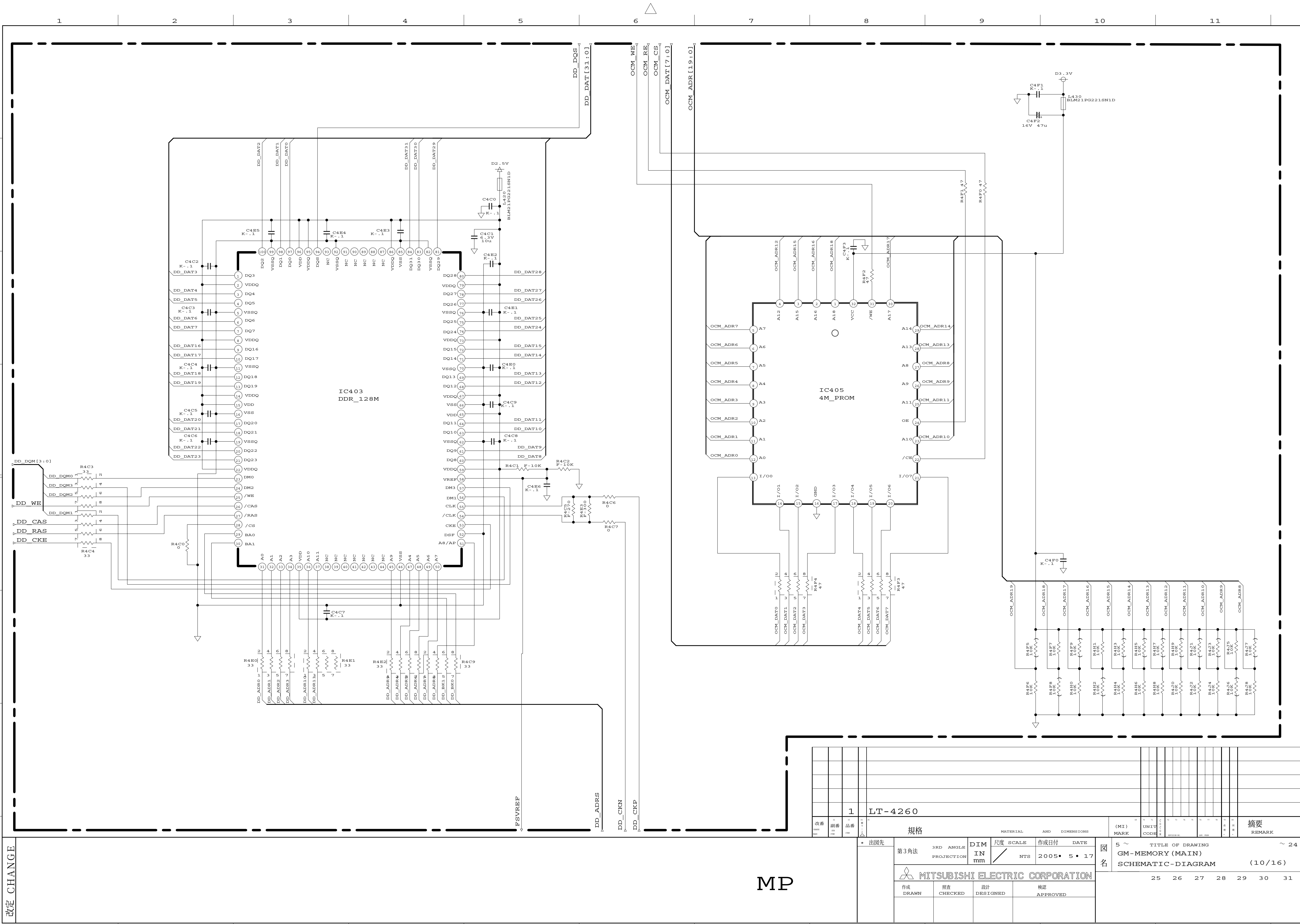
MP

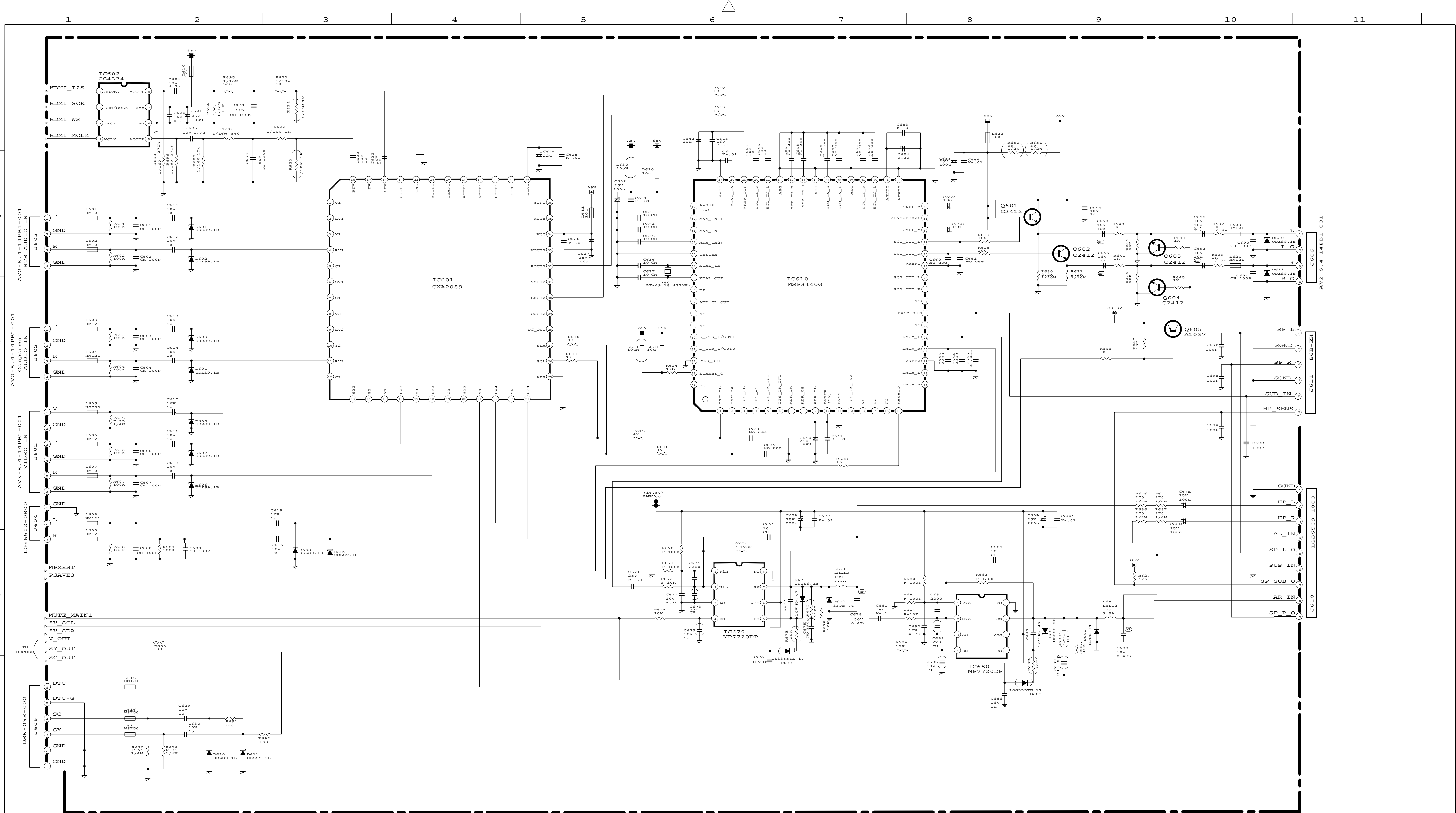
改定 CHANGE

SCL=1/1.2



IC400
gm1601
IC401
M24C32
X400
14.318M
J400
S7B-PH-K-S
J402
FI-W41P
COMP_Pb
COMP_Y
COMP_Pr
HSS_INT
GMRST
GEN_W
GM_RXD
GM_TXD
GEN_INT
OCM_WE
OCM_RE
OCM_CS
OCM_ADR[19:0]
OCM_DAT[7:0]
PC_TXC-
PC_TXC+
PC_TX0-
PC_TX0+
PC_TX1-
PC_TX1+
PC_TX2-
PC_TX2+
DEC_HD
DEC_VD
FIELD
DEC_Y[7:0]
DEC_CLK
HDMI_PR[7:0]
HDMI_HS
HDMI_DE
HDMI_CLK
HDMI_VS
HDMI_Y[7:0]
HDMI_PB[7:0]
BRIGHT
INV_SW
PWM1
PWM2
DD_DAT[31:0]
FSVREF
DD_DQS
DD_CKP
DD_CKN
DD_WE
DD_CAS
DD_RAS
DD_CKE
DD_DQM[3:0]
DD_ADR8
PNLVCC
D3.3V
A1.8V
D1.8V
D2.5V
AD3.3V
S3.3V
S5V
MP
LT-4260
改番
副番
品番
規格
MATERIAL AND DIMENSIONS
(MI) MARK
UNIT CODE
COCOM
摘要
REMARK
出図先
第3角法
3RD ANGLE PROJECTION
DIM IN mm
尺度 SCALE
NTS
作成日付 DATE
2005• 5 • 17
MITSUBISHI ELECTRIC CORPORATION
作成 DRAWN
照査 CHECKED
設計 DESIGNED
検認 APPROVED
図名
TITLE OF DRAWING
GM1601(MAIN)
SCHEMATIC-DIAGRAM (9/16)
改定 CHANGE
SCL=1/1


IC403
DDR_128M
IC405
4M_PROM
LT-4260
GM-MEMORY(MAIN)
SCHEMATIC-DIAGRAM
(10/16)
MITSUBISHI ELECTRIC CORPORATION
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MP
SCL=1/1
改定 CHANGE



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改番 | 訓番 | 品番 | 規格 MATERIAL AND DIMENSIONS | (MI) MARK | UNIT CODE | 摘要 REMARK

改定 CHANGE

MP

出図先

第3角法 3RD ANGLE PROJECTION

DIM IN mm

尺度 SCALE NTS

作成日付 DATE 2005• 5• 17

MITSUBISHI ELECTRIC CORPORATION

作成 DRAWN | 照査 CHECKED | 設計 DESIGNED | 検認 APPROVED

図名 TITLE OF DRAWING 5 ~ ~ 24

AUDIO(MAIN)
SCHEMATIC-DIAGRAM (11/16)

25 26 27 28 29 30 31

SCL=1/1.3

J8A0 B12B-EH-K-S

GND
A12V
A9V
N.C
GND
AMPVCC
S8V
S5V
S3.3V
S3.3V
4.5V
GND

IC8A0 SI3033LSA
IC8E0 SI3033LSA
IC8F0 SI3033LSA
IC8H0 SI3025LSA
IC8J0 SI3018LSA
IC8K0 SI3018LSA
IC8L0 SI3012KS
IC8X0 SI3050LSA
IC8T0 PQ1CY1032Z
IC8R0 LMV324MTX

Q8M1 C2412K-R,S /C3928A-R
Q8M2 C2412K-R,S /C3928A-R

PSAVE2_S
PSAVE1
PSAVE2
INV_SW
BRIGHT
RELAY
LED
PSAVE3

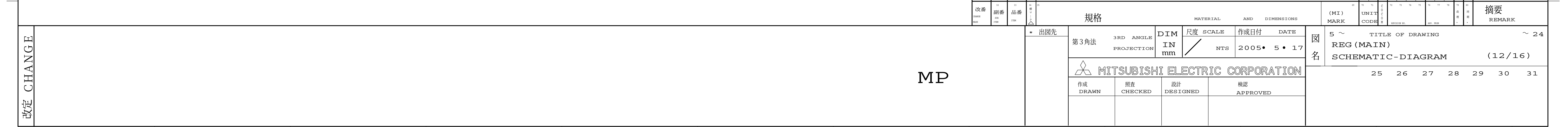
J8A2 B11B-PH-K-S
GND
PSAVE1
PSAVE2
PSAVE3
INV_SW
BRIGHT
RELAY
AMBER
BLUE
MUTE_SUB
GND

BLUE
AMBER
MUTE_SUB1

J8A3 UBB-4R D14C
USB5V
DATA_N
DATA_P
GND

J8A5 B5B-PH-K-S
USB5V
GND
DATA_N
DATA_P
GND

PNLVCC_SW
PNLVCC


1 LT-4260
改番 副番 品番 規格 MATERIAL AND DIMENSIONS (MI) MARK UNIT CODE 摘要 REMARK
出図先 第3角法 3RD ANGLE PROJECTION DIM IN mm 尺度 SCALE NTS 作成日付 DATE 2005• 5• 17
MITSUBISHI ELECTRIC CORPORATION
作成 DRAWN 照査 CHECKED 設計 DESIGNED 検認 APPROVED
図名 5 ~ TITLE OF DRAWING ~ 24
REG(MAIN)
SCHEMATIC-DIAGRAM (12/16)
25 26 27 28 29 30 31
MP
改定 CHANGE

SCL=1/1.4

J6E4 B6B-EH

HP_SENS
SUB_IN
SGND
SP_R
SGND
SP_L

SP_LP
SP_LN
SP_RP
SP_RN
SP_W1P
SP_W1N
SP_W2P
SP_W2N

B8B-EH J6EA

SAMPVcc (14V)

IC6C0 MP7720DP

IC6A0 MP7720DP

Q6C0 C2412

Q6A0 C2412

MUTE_SUB

SAMPVcc 14V

Q6F1 C2412

Q6F2 C2412

Q6F3 C2412

MUTE_AMP

IC6F1 FDS6912A

IC6F2 FDS6912A

IC6F3 FDS6912A

IC6F4 FDS6912A

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改番	個番	品番	規格	MATERIAL AND DIMENSIONS	(MI) MARK	UNIT CODE	摘要 REMARK

出図先

第3角法 3RD ANGLE PROJECTION

DIM IN mm

尺度 SCALE NTS

作成日付 DATE 2005• 5• 17

図名 TITLE OF DRAWING

5 ~ ~ 24

AMP(DCDC)

SCHEMATIC-DIAGRAM (13/16)

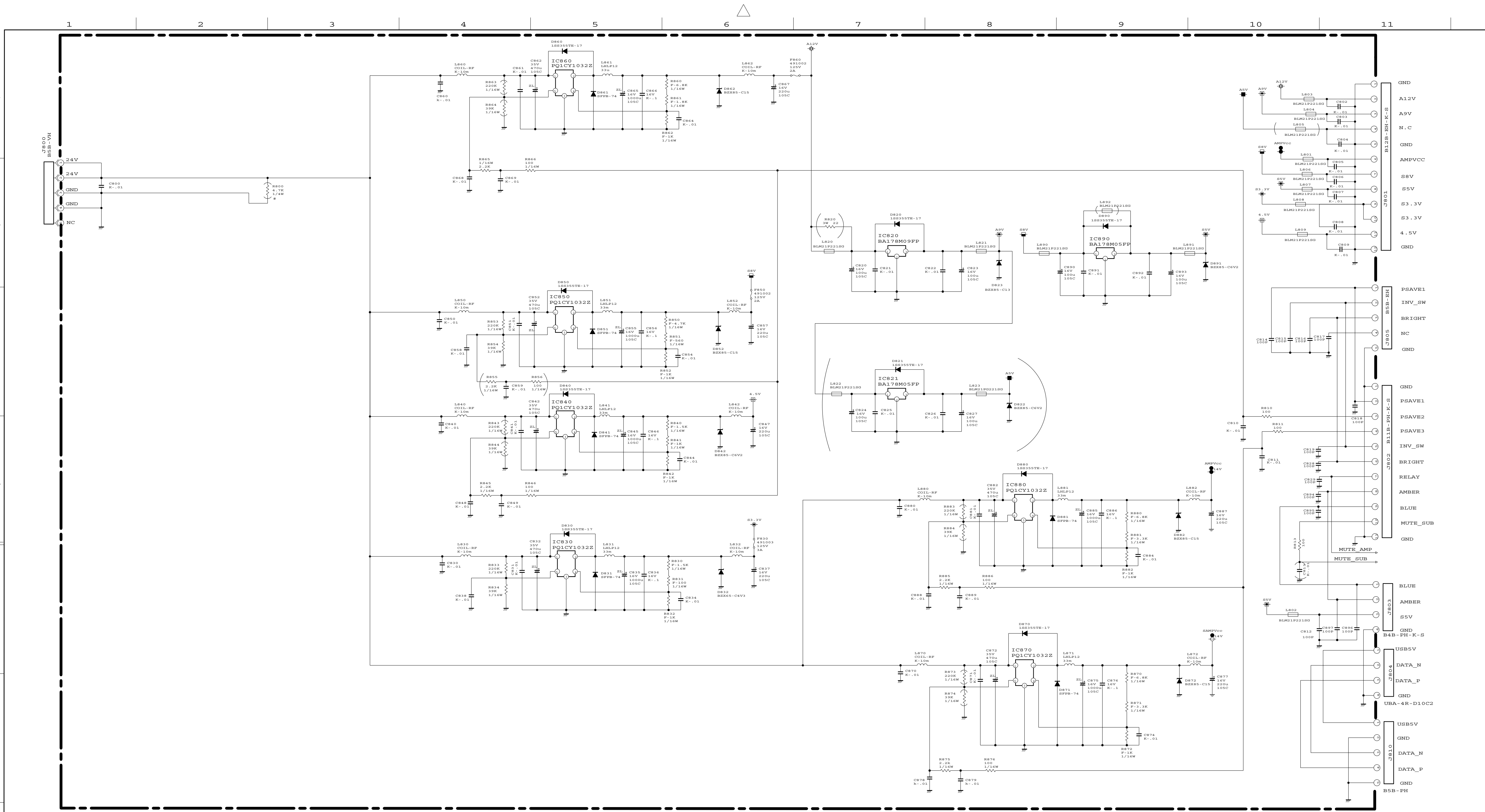
25 26 27 28 29 30 31

MITSUBISHI ELECTRIC CORPORATION

作成 DRAWN	照査 CHECKED	設計 DESIGNED	検認 APPROVED

改定 CHANGE

MP



1	LT-4260	
改番	品番	規格 MATERIAL AND DIMENSIONS	(MI) MARK	UNIT CODE	摘要 REMARK

* 出図先

第3角法 3RD ANGLE PROJECTION	DIM IN mm	尺度 SCALE NTS	作成日付 DATE 2005・5・17	図名 TITLE OF DRAWING

5 ~ ~ 24

DCDC

SCHEMATIC-DIAGRAM (14/16)

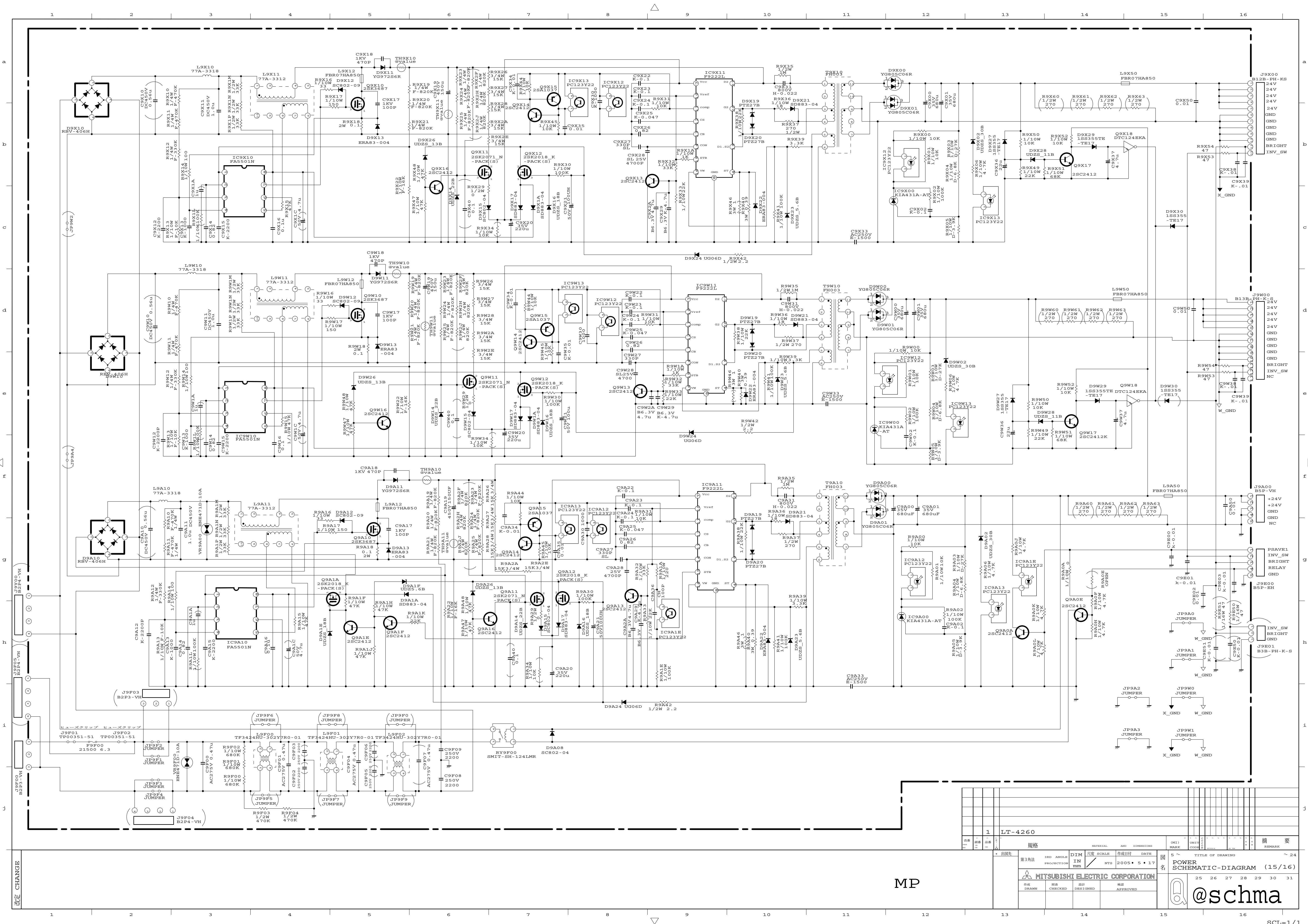
25 26 27 28 29 30 31

MITSUBISHI ELECTRIC CORPORATION

作成 DRAWN	照査 CHECKED	設計 DESIGNED	検認 APPROVED

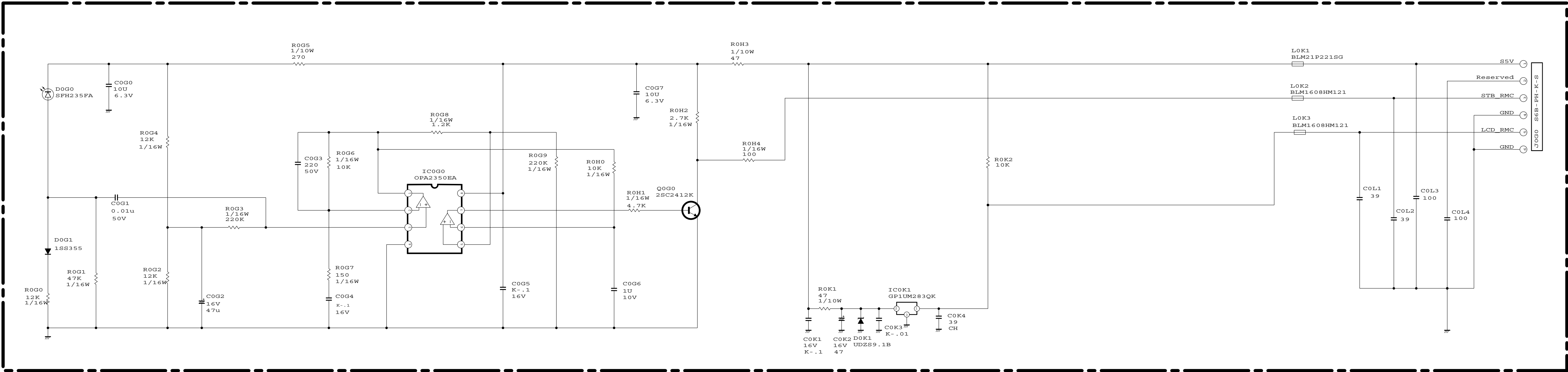
改定 CHANGE

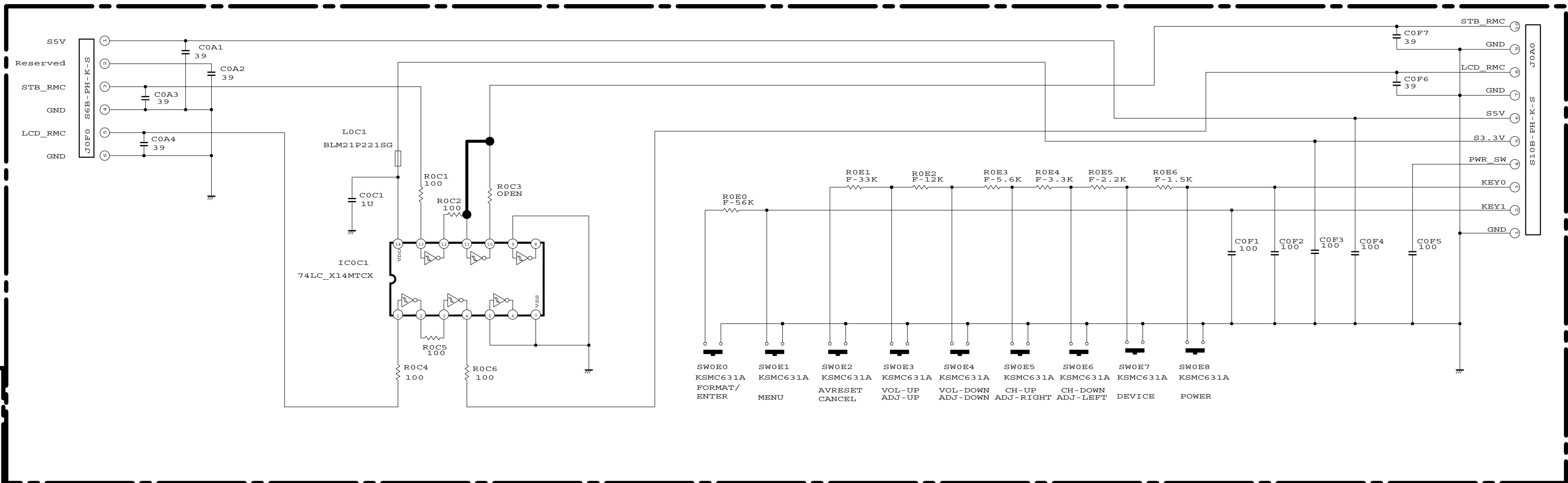
MP



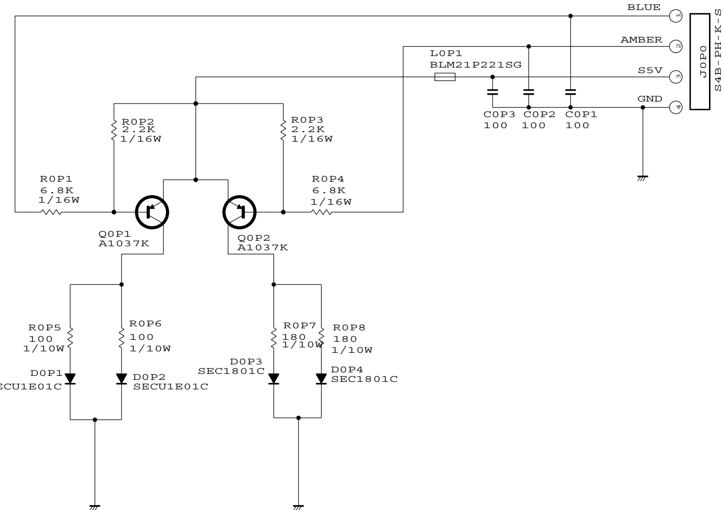
LT-4260
POWER
SCHEMATIC-DIAGRAM (15/16)
MITSUBISHI ELECTRIC CORPORATION
2005・5・17
MP
@schma
SCL=1/1
CHANGE

IR





LED



CONTROL

LT-4260

規格 MATERIAL AND DIMENSIONS

(MI) MARK | UNIT CODE | 摘要 REMARK

改番 | 調番 | 品番

出図先 | 第3角法 3RD ANGLE PROJECTION | DIM IN mm | 尺度 SCALE NTS | 作成日付 DATE 2005・5・17

図名 5 ~ 24 TITLE OF DRAWING

CONTROL IR LED

SCHEMATIC-DIAGRAM (16/16)

25 26 27 28 29 30 31

MITSUBISHI ELECTRIC CORPORATION

作成 DRAWN | 照査 CHECKED | 設計 DESIGNED | 検認 APPROVED

改定 CHANGE

MP

SCL=1/1